

1964

Annual Report 1964 Nebraska Game, Forestation and Parks Commission

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A N N A L R E P O R T

1964

NEBRASKA GAME, FORESTATION AND PARKS COMMISSION

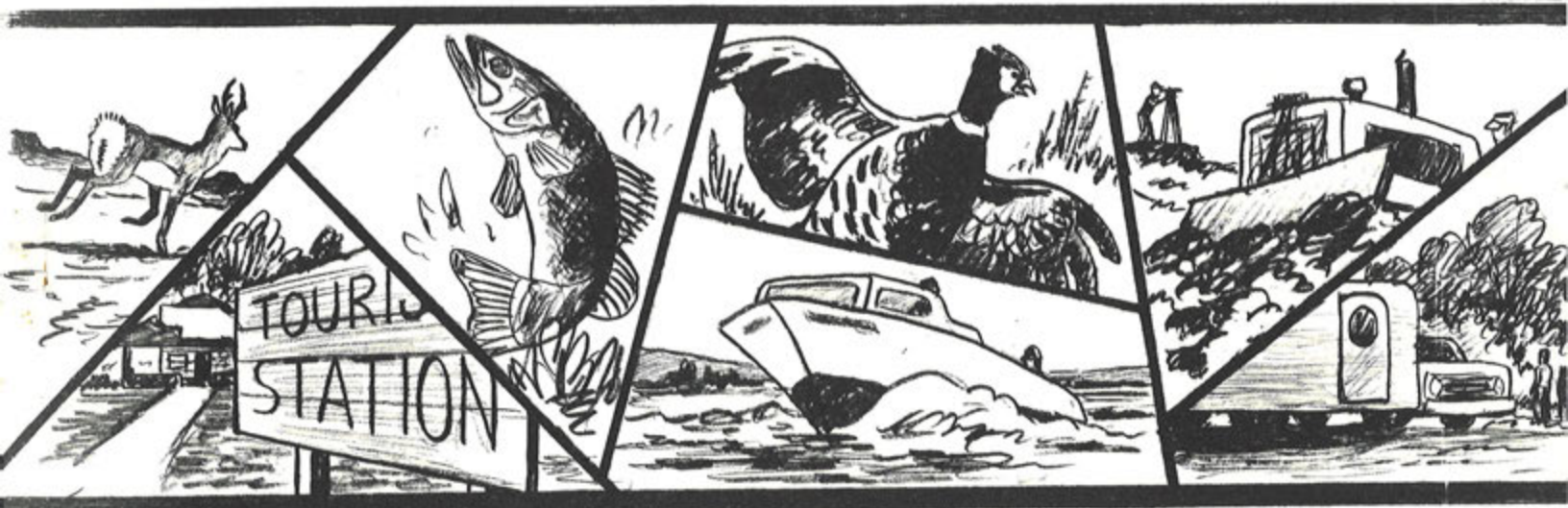


Table of Contents

| | | | |
|----------------------|----|------------------------------|----|
| Commissioners..... | 3 | Parks..... | 34 |
| Game..... | 5 | Law Enforcement..... | 42 |
| Fisheries..... | 16 | Boating..... | 45 |
| Land Management..... | 22 | Information and Tourism..... | 46 |
| Federal-aid..... | 27 | Financial..... | 49 |
| Research..... | 28 | Permits Issued..... | 55 |

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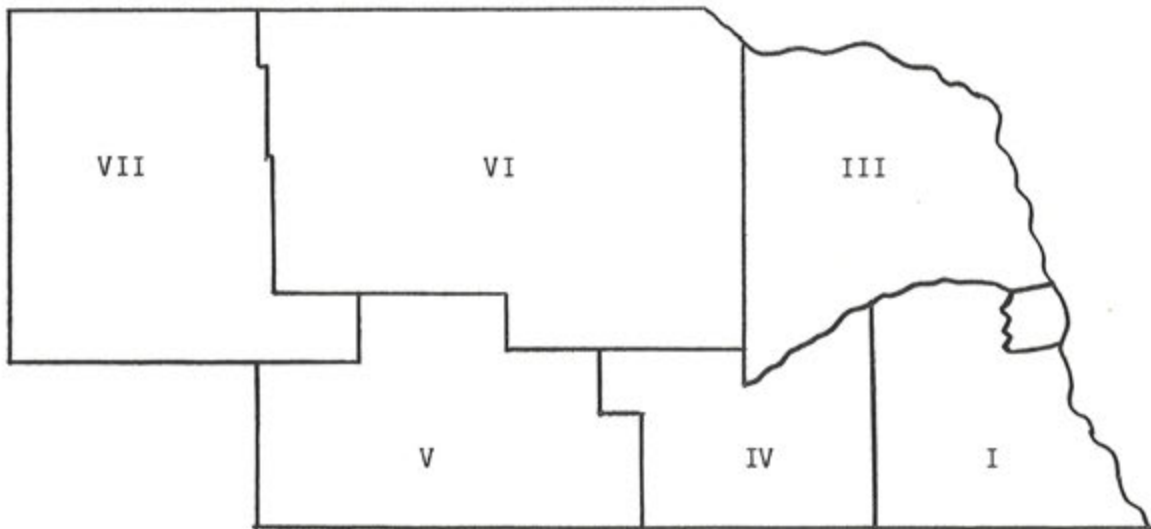
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G A M E

Deer

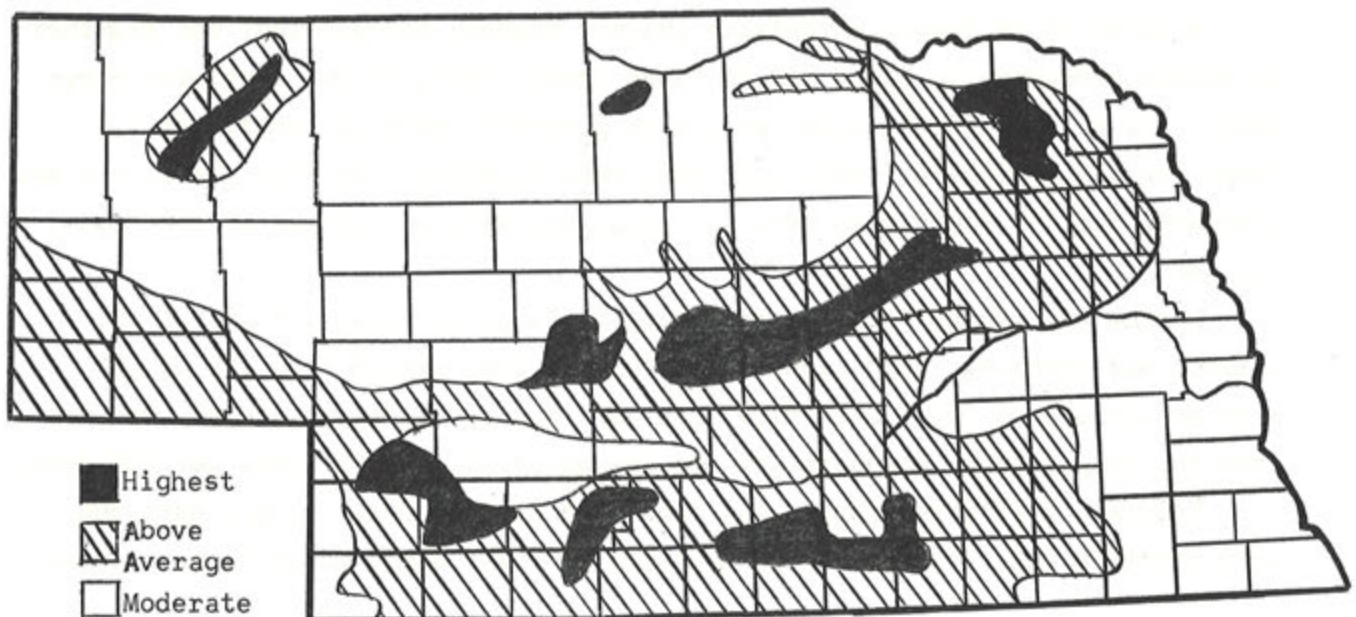
In 1964, deer rifle hunters attained the highest success recorded since the entire state was open to hunting. More permits were issued and a greater number of deer taken than ever before.

This was the fourth consecutive year that the entire state was open to rifle deer hunting. Permits were allotted in limited numbers for each of the 17 management units, and hunting was permitted for nine days, from November 7 to 15.

Hunters were restricted to antlered males in the Upper Platte, Blue, Republican and southern portion of the Wahoo Unit. In the Keya Paha, Omaha, Nemaha, Pine Ridge and northern portion of the Wahoo Unit, deer of either sex were legal throughout the season. In the Plains Unit, hunters were restricted to bucks only during the first seven days but were permitted to take either sex deer on the last two days. In the remaining units, bucks could be taken during the first eight days with either sex legal on the last day only.

Success statewide was 73.2 per cent, compared to 68.7 per cent in 1963. This increase can be attributed to more liberal regulations. The number of deer permits issued (18,086) was considerably above the previous record of 15,412 in 1963. Part of the increase in permit sales resulted from hunters being permitted to obtain a second license in unfilled units after a specified date. However, the bulk of the increase in sales was due to additional hunters.

1964 Pheasant Densities



Game - cont.

Total kill during the regular season was 13,248, compared to 10,586 in 1963. Whitetails constituted 39.1 per cent of the kill compared to 35.3 per cent in 1963. Proportion of whitetails in the kill has generally been increasing each year. Part of this is the result of increasing deer populations in eastern Nebraska. However, whitetails are also increasing significantly in areas of species overlap due to greater productivity and reduced vulnerability compared to that of the mule deer.

About half of the Valentine Refuge was open to deer hunting for the first time since its establishment. A total of 150 permits was issued for a three-day season, December 12 to 14. Only white-tailed deer, of either sex, were legal. Actual participants included 138 permittees who harvested 69 deer for a success of 46.0 per cent. Collections in conjunction with the special hunt included data on sex, age and weights (live and hog-dressed), reproductive tracts and blood samples.

Archery hunting was permitted statewide from September 19 through December 31, exclusive of the nine day period open to rifle hunting. No limit was placed on permit numbers, and 2,256 were issued. Archers attained the highest hunting success and kill on record, taking 591 deer for a success of 26.2 per cent. The number of permits increased by 1/3 over 1963 and the deer kill increased 43 per cent. A considerable portion of the increase in permit sales and kill was due to allowing, for the first time, purchase of two archery permits. Archery deer were taken in 84 counties. Whitetails constituted 55.7 per cent of the kill. The harvest was fairly evenly distributed through the season.

A total of 49 female whitetails (mainly highway mortalities) was examined to obtain productivity data. Of 28 fawns (born 1963), 67 per cent were pregnant. All but one of the older deer were pregnant, with an average of 1.8 fawns per doe. Fifteen female mule deer were examined. Of five fawns, one was pregnant; the 10 older deer were all pregnant, with an average of 1.8 fawns per doe.

During the annual fallow deer survey in January, 1964, a total of 105 animals was counted. Herd counts from 1958 to 1962 ranged from 105 to 157 with an average of 131. Data from 1963 were obviously incomplete so were not used for comparison. Productivity was low as usual with 20 fawns per 100 does.

Fourteen deer were trapped and tagged in Rock County, using a dart gun with nicotine salicylate as a tranquilizer. Of six adult bucks tagged, three

Deer - cont.

were shot during the regular rifle season. Air-line distances traveled were 4, 6, and 78 miles. None of the eight tagged antlerless deer were harvested.

Table 1. Summary of 1963 and 1964 deer harvest by rifle hunters.

| | Number Permits Issued | | Number Deer Harvested | | Hunting Success Per Cent | |
|--------------|--------------------------|--------|--------------------------|--------|-----------------------------|------|
| | 1963 | 1964 | 1963 | 1964 | 1963 | 1964 |
| Pine Ridge | 2,362 | 2,497 | 1,567 | 2,170 | 66.3 | 86.9 |
| Plains | 773 | 1,250 | 590 | 977 | 76.3 | 78.2 |
| Upper Platte | 349 | 500 | 271 | 378 | 77.6 | 75.6 |
| Sandhills | 1,489 | 1,498 | 1,164 | 1,172 | 78.2 | 78.2 |
| Platte | 1,498 | 1,498 | 1,037 | 997 | 69.2 | 66.5 |
| Frenchman | 749 | 850 | 570 | 652 | 76.0 | 76.7 |
| Keya Paha | 1,248 | 1,596 | 1,084 | 1,401 | 86.9 | 87.8 |
| Calamus | 799 | 1,000 | 603 | 751 | 75.5 | 75.1 |
| Loup | 1,249 | 1,249 | 978 | 966 | 78.3 | 77.3 |
| Buffalo | 998 | 999 | 629 | 678 | 63.0 | 67.9 |
| Republican | 350 | 499 | 157 | 211 | 44.9 | 42.3 |
| Missouri | 1,000 | 1,500 | 491 | 1,049 | 49.1 | 69.9 |
| Elkhorn | 850 | 1,000 | 565 | 640 | 66.5 | 64.0 |
| Wahoo | 750 | 750 | 408 | 513 | 54.4 | 68.4 |
| Omaha | 299 | 300 | 117 | 105 | 39.1 | 35.0 |
| Blue | 349 | 600 | 167 | 231 | 47.9 | 38.5 |
| Nemaha | 300 | 500 | 188 | 352 | 62.7 | 70.4 |
| Totals | 15,412 | 18,086 | 10,586 | 13,243 | 68.7 | 73.2 |

Antelope

The first antelope season was held in the Sandhills in 1964. This brought realization to a project of reintroducing pronghorns into this region which began in 1958. A special horns-longer-than-ears regulation was employed to permit this season.

The summer population of antelope in the Panhandle was estimated at about 4,400 animals. For those areas censused in both 1963 and 1964, there was an indicated decrease of six per cent in the total population. Major decreases were indicated in the Garden and eastern portion of the Box Butte Unit; the Cheyenne and western Box Butte remained relatively constant and the North Sioux showed a major increase. Aerial surveys sampled about 1,450 square miles of 7,600 square

Antelope - cont.

miles of antelope range. Over-all productivity was somewhat lower than in 1963 but was about the same as in 1962. Kid:doe ratios observed during aerial surveys were 73:100 as compared to 8:100 in 1963.

An aerial survey covering portions of the Sandhills was conducted in mid-July. The area sampled included about 535 square miles in a survey area of 2,140 square miles. The indicated density was 0.22 antelope per square mile compared to 0.31 in 1963 and 0.19 in 1962. The kid:doe ratio of 74:100 was higher than those of 67:100 in 1963 and 57:100 in 1962.

Hunters were allowed to harvest antelope in seven management units during 1964. Hunters were permitted to take either sex in the Banner, Cheyenne, Garden and North Sioux units while those hunting in the Box Butte and the newly opened Cherry and Rock units were restricted to antelope with horns longer than ears. This restriction was designed to allow some recreation and harvest and to permit population increases through an essentially bucks-only harvest.

A total of 1,334 permits was issued. Success in those units open to either sex hunting was 88 per cent, with a kill of 734 antelope. In those units restricted to bucks only hunting, the kill was 350 antelope for a hunter success of 70 per cent. Permits, success and kill by areas are shown in Table 2. Both the permits issued and total kill constituted new records. The buck:doe:kid ratio in units open to either sex hunting was 235:100:56. Adult bucks comprised 60 per cent of the kill, showing considerable hunter selectivity. Pre-season sex ratios indicated that adult bucks constituted about 21 per cent of the population.

Table 2. Antelope hunting success during 1964.

| Management Unit | Type of Season | Number Permits | Number Taken | Per Cent Success |
|----------------------------------|----------------|----------------|--------------|------------------|
| Banner | Either Sex | 150 | 132 | 88.0 |
| Cheyenne | Either Sex | 150 | 139 | 92.7 |
| Garden | Either Sex | 250 | 205 | 82.0 |
| North Sioux | Either Sex | 284 | 258 | 90.8 |
| Combined Success for these Units | | 834 | 734 | 88.0 |
| Box Butte | Bucks Only | 200 | 145 | 72.5 |
| Cherry | Bucks Only | 150 | 114 | 76.0 |
| Rock | Bucks Only | 150 | 91 | 60.7 |
| Combined Success for these Units | | 500 | 350 | 70.0 |

Antelope - cont.

The first archery antelope season in Nebraska was held in 1964. Hunter participation was low due probably to the shortness of the season (two weeks), distance of antelope range from centers of human population and general difficulty of bagging an antelope by this method. Twenty-nine hunters purchased permits and bagged six antelope for a success of 20.7 per cent.

Thirteen tagged antelope were shot during the season in the Cherry and Rock units. Movement distance in air miles ranged from 4 to 35 miles from the release sites. Movements of three antelope were recorded as less than 15 miles while 10 had moved more than 15 miles.

Turkey

The first spring turkey season was held in 1964. This was a gobbler-only hunt and both the Round Top and Niobrara units were open to hunting.

Merriam's Turkey

Three turkey hunting seasons were held in 1964 in the Pine Ridge and along the Niobrara River. A spring season for gobblers only was held from April 18 to April 26, and 750 permits were authorized and issued for the two areas. Total harvest was 130 gobblers, for a hunter success of 17.3 per cent. Weights of both adult and juvenile gobblers were greater than those of birds taken during fall seasons.

An early fall season was held from October 24 to October 28. A total of 1,050 permits was authorized and 973 of these were issued. Hunter success was 59.0 per cent, with a kill of 575 birds. Based on 551 birds, composition of the kill expressed in per cent was as follows: juvenile males - 52.9, juvenile females - 30.5, adult males - 6.0 and adult females - 10.5.

Table 3. Turkey hunting success during 1964.

| Season | Management Unit | Number Permits | Number Taken | Per Cent Success |
|---------------------------------|-----------------|----------------|--------------|------------------|
| Spring (April 18-26) | Round Top | 600 | 80 | 13.3 |
| | Niobrara | 150 | 50 | 33.3 |
| Combined Success for Both Units | | 750 | 130 | 17.3 |
| ----- | | | | |
| Early Fall (Oct. 24-28) | Round Top | 725 | 438 | 60.4 |
| | Niobrara | 248 | 137 | 55.2 |
| Late Fall (Nov. 14-18) | Round Top | 563 | 152 | 27.0 |
| | Niobrara | 168 | 54 | 32.1 |
| Combined Success for Both Units | | 1,704 | 781 | 45.8 |

Merriam's Turkey - cont.

The second fall season was from November 14 to 18. Number of permits authorized was the same as for the early fall season, and 731 were issued. Total harvest was 206 turkeys for a hunter success of 28.2 per cent. The lower success, compared to the early season, was probably due primarily to increased wariness of the birds. Sex and age composition, based on 164 birds, was as follows: juvenile males - 45.7 per cent, juvenile females - 31.1 per cent, adult males - 10.4 per cent and adult females - 12.8 per cent. Permit numbers, success and kill by area are shown in Table 3.

The Merriam's turkey program has been one of the most outstanding successes of any game program in Nebraska. Twenty-eight turkeys were released in the Pine Ridge in early 1959. The first season was held in 1962, and with three years of hunting in the Pine Ridge and one year on the Niobrara, legal harvest to date has been 1,747 birds.

According to results from other states, huntable populations of Merriam's turkeys have not been established in areas of strictly deciduous cover. Experimental releases were made at four such sites in Nebraska -- Verdigre Creek (1963), St. James (1963), New Castle (1963), and Nickerson (1964). Prospects appear favorable at the Verdigre Creek site, but no production or recent observations have been noted at the other sites. A few additional experimental releases in other areas are planned for 1965.

A release of two toms and four hens on the Dismal River south of Thedford, an area of mixed hardwoods and red cedar, resulted in a late summer flock of 23 birds after the first production season. This release and the one at Nickerson (six birds) were the only new transplants in 1964. Nine turkeys, two toms, and seven hens were trapped and shipped to Minnesota for attempted establishment in that state.

Rio Grande Turkey

Earlier releases of 518 Rio Grande turkeys at 25 sites has been far less spectacular than the Merriam's plants. A few release sites on the Platte Rivers and South Loup River have had a moderate degree of success, and a limited spring season probably will be recommended in 1965.

Pheasant

The spring pheasant population showed an increase of about eight per cent over 1963.

Pheasant - cont.

Production determined from summer counts was spotty. Summer surveys conducted by Commission personnel showed a lower population level than was recorded the previous year. Conditions for observing broods during much of the survey period were poor. Hot, dry weather persisted which kept broods back in the heavier cover and off the roadways where they would be counted. The survey by the rural mail carriers, conducted under more favorable conditions, indicated the population to be unchanged from the previous year.

The pheasant season extended from October 17 to January 17 with bag and possession limits set at 4 and 20. A special hen season was authorized for the Panhandle counties during the last nine days, January 9 to 17. Limits were placed at one hen in the daily bag of four and five hens in a possession limit of twenty.

Information obtained from check stations during the opening weekend of the regular season indicated that hunters averaged 1.8 birds per man which represented a seven per cent decrease from the previous year.

Information collected from check stations during the hen season indicated very light hunting pressure. The information revealed that 86 per cent of the hunters hunted in their county of residence.

Grouse

Hunters enjoyed excellent grouse hunting in 1964. Populations of both prairie chicken and sharptail grouse were at a high level.

Information from the spring display ground survey showed a substantial increase in grouse on the breeding grounds over 1963. Prairie chicken numbers were up 45 per cent from the previous year and sharptails showed a 58 per cent rise over 1963.

Summer brood data indicated that good production occurred. Sharptail brood size showed an average of 8.6 young per brood, which was the same as recorded in 1963. Prairie chicken brood size dropped from 8.4 to 6.7 young per brood.

The hunting season extended from October 3 through November 1 which made it the longest grouse season in recent years. Bag and possession limits were increased from 2 and 4 to 3 and 6 to permit hunters to make better use of the surplus production. Area open included the Sandhills and the southwest counties. The southwest area was first opened to hunting during the latter part of the season in 1963.

Grouse - cont.

Data from the opening weekend showed that hunters averaged seven per cent more birds per man but took slightly longer in doing so.

Table 4. Hunter success data for opening weekend
in 1963 and 1964.

| | 1963 | 1964 | Per Cent Change 1964 from 1963 |
|----------------|-------|-------|--------------------------------|
| Hunters | 887 | 1,141 | + 28.6 |
| Days | 1,212 | 1,577 | + 30.1 |
| Hours | 5,239 | 8,024 | + 53.2 |
| Birds | 1,515 | 2,090 | + 38.0 |
| Birds per man | 1.71 | 1.83 | + 7.0 |
| Birds per day | 1.25 | 1.33 | + 6.4 |
| Hours per bird | 3.46 | 3.84 | + 11.0 |

Quail

The quail population in 1964 was at the highest level recorded since the peak years of 1958-59. The mild weather in 1963 and the generally favorable weather during the nesting season permitted the population build-up to occur.

Table 5. Summary of hunting regulations, hunting time and hunting success -
1961-1964.

| | 1961 | 1962 | 1963 | 1964 |
|----------------------------|------|------|------|------|
| Days in Season | 44 | 60 | 53 | 70 |
| Limits (Bag Possession) | 8-16 | 6-12 | 6-18 | 6-18 |
| Ave. Trips/Hunter | 5.3 | 5.9 | 6.8 | 7.9 |
| Ave. Gun-Hours for Season | 21.5 | 22.5 | 22.5 | 28.9 |
| Ave. Season Bag | 24.3 | 18.6 | 26.2 | 30.3 |
| Time/Covey Flushed (hours) | 1.19 | 1.66 | 1.22 | 1.25 |
| Birds Bagged/Hour | 1.14 | 0.83 | 1.16 | 1.05 |
| Birds Bagged/Covey | 1.36 | 1.38 | 1.42 | 1.31 |
| Crippling Loss | 8.8 | 10.8 | 10.4 | 9.9 |

Quail - cont.

Summer whistle count surveys showed an increase of 38 per cent over the previous year. In the 10 southeastern counties which are considered to be the best quail producers, there was a 57 per cent increase in the whistle count.

The season extended from October 17 through December 25 in the south zone and from October 17 through December 13 in the north zone. Bag and possession limits were placed at 6 and 18 in both areas.

Reports from the quail hunter cooperator survey show that hunters averaged 3.8 birds per day and 30.3 quail for the season. The daily bag was the same as that reported the previous year but the seasonal bag was 16 per cent above the 26.2 recorded in 1963.

Cottontail

The cottontail population showed a 36 per cent increase over 1963 according to information obtained in conjunction with bobwhite surveys. Numbers were 90 per cent above the 1962 level and five per cent higher than the past six year average.

The season was changed to permit hunting on year-round basis. Bag and possession limits were set at 10 and 30.

Squirrel

The squirrel population showed relatively little change from 1963. Season dates for squirrel hunting extended from August 1 to March 1 with bag and possession limits of 7 and 21.

Chukar Partridge

A total of 794 Chukar partridge was released in the Wildcat Hills. The release area was about seven miles southwest of Gering in Scotts Bluff County. This was the first transplant that has been made since the program began four years ago. The original source of stock was eggs which were supplied from Turkey. The eggs were hatched by a private game breeder during 1961 and 1962. The breeder birds were then transferred to the state game farm at Sacramento. Hatching operations have been carried on at this facility since the transfer. Production was somewhat below expectation in 1964.

Waterfowl

Water conditions, at the time of the breeding ground survey in May, were

Waterfowl - cont.

generally good in the Sandhills but very dry in the Rainwater Basin area of southcentral Nebraska. The calculated breeding population was 124,000 in the Sandhills and 12,500 in the southcentral region, compared to 121,000 and 5,000 respectively for 1963. By mid-July, the western Sandhills was suffering from drouth conditions while the remainder had about normal seasonal losses. Production was calculated to be 48 per cent below that of 1963.

A mild and dry fall resulted in less than normal amounts of surface water for hunting opportunities. Considering the supply of ducks and geese available for harvest, there were fair populations within the state during the split duck season. Dates for the duck season were October 3 to October 18 and November 21 to December 10. Bag and possession limits were 4 and 8 for both parts of the season. The goose season extended from October 1 through December 14 with bag and possession limits of 5 and 5.

Investigations in the form of banding ducks and geese continued during 1964. Department banding efforts and efforts in co-operation with other agencies resulted in the placing of bands on 4,100 ducks and geese.

Table 6. Six year summary of waterfowl harvests.

| Year | Duck Stamps | Ave. Season Duck Bag | No. Ducks Killed | No. Geese Killed | No. Coot Killed | No. Snipe Killed |
|------|----------------|-------------------------|---------------------|---------------------|--------------------|---------------------|
| 1958 | 63,910 | 7.9 | 445,250 | 22,340 | 4,660 | 3,650 |
| 1959 | 49,880 | 7.5 | 305,860 | 15,900 | 2,070 | 5,080 |
| 1960 | 46,040 | 7.4 | 290,380 | 16,380 | 1,330 | 1,990 |
| 1961 | 33,380 | 5.6 | 180,040 | 16,520 | 195 | 290 |
| 1962 | 18,760 | 3.9 | 62,420 | 10,510 | 793 | 1,116 |
| 1963 | 26,280 | 6.8 | 143,414 | 12,365 | 908 | 885 |

Wetlands

The survey of wetlands has been completed in 22 counties and in one-half of Cherry County. The large area of natural rainwater basins in the south-central part of the state is more than 90 per cent completed. In this region, nearly 80 per cent of the more than 3,400 original wetlands surveyed have been destroyed by drainage and leveling.

In the Sandhill counties surveyed to date, relatively few of the 5,900 have been destroyed. However, the acreage of wetlands drained is well over 10,000 acres. A large portion of this drainage was done prior to 1930. The practice of pumping water from a lake to pockets in the hills is of more recent

Wetlands - cont.

occurrence and appears to be gaining in popularity with landowners.

At the close of 1964, the Bureau of Sport Fisheries and Wildlife, for purposes of preserving wetlands, has made 35 purchases covering 4,391.33 acres in the southcentral part of the state.

Table 7. Wetlands purchased to date.

| County | Acreage | Number Areas | Purchases |
|----------|---------|--------------|-----------|
| Clay | 1708.83 | 10 | 16 |
| Fillmore | 790.00 | 3 | 5 |
| Kearney | 160.00 | 1 | 1 |
| Phelps | 320.00 | 2 | 3 |
| Gosper | 1012.50 | 2 | 7 |
| York | 400.00 | 2 | 3 |
| Totals | 4391.33 | 20 | 35 |

Furbearers

The statewide fur harvest for the 1963-64 trapping season was 198,943 furbearers - an increase of 42.3 per cent from the past five-year average and 26.0 per cent above the previous year. Total calculated value of the harvest was \$328,843.00 which was 29.4 per cent over 1962-63.

Table 8. Fur harvest for major species 1963-64.

| Species | Per Cent Taking | Average Take Per Trapper | Calculated Harvest | Average Price | Calculated Value |
|---------|-----------------|--------------------------|--------------------|---------------|------------------|
| Muskrat | 82.8 | 59.6 | 151,142 | \$.87 | \$131,494.00 |
| Beaver | 45.1 | 7.8 | 10,737 | 6.69 | 71,831.00 |
| Mink | 58.7 | 5.2 | 9,359 | 9.97 | 93,309.00 |
| Raccoon | 57.3 | 12.1 | 21,162 | 1.32 | 27,934.00 |
| Total | | | 192,400 | | \$324,568.00 |

F I S H E R I E S

The Fishery Division is divided into four main sections: administration, salvage and distribution, fish production, and fishery management. The division is responsible for the study and management of fish populations, aquatic habitat, and other factors in the state's waters to improve fishing for Nebraska anglers.

Administration

Included in the duties of the Administrative section is the issuance of all special fishery permits. During 1964 the section issued the following permits (1963 figures in brackets): Missouri River seining-vendor permits 269 (297), bait vendor permits 295 (283), private minnow hatchery permits 12 (12), private game fish hatchery permits 19 (16), and commercial put-and-take permits 5 (5). Other duties of this section include keeping detailed cost accounting records on the production of various species of fish, put-and-take trout operations, and the general supervision and co-ordination of all sections of the Division.

Salvage and Distribution

The 15 men who make up the seining crew are active all year long transferring and stocking fish throughout the state. Stationed at North Platte, their primary purpose is to relocate fish from waters that are over-populated or drying up, and moving them to areas that are deficient in fish. During the year they seined 47 lakes, reservoirs, canals, and rivers on 71 different occasions and transferred (with 1963 figures in brackets) 50,904 crappie (61,045), 2,442 white bass (3,987), 2,446 bass (1,652), 101 drum (279), 112,678 carp (103,310), 8,000 minnows (3,200), 158,322 perch (30,971), 36,290 bluegill (43,531), 273,265 bullheads (90,392), 79,830 channel catfish (27,848), 302 flathead catfish (365), 1,946 northern pike (542), and 699 walleye (1,967) to new waters.

In addition, hundreds of seine hauls were made in Nebraska waters to assist fisheries biologists in population studies, age and growth, and other studies or to remove undesirable species. Many of the rough fish seined are either disposed of or salvaged for sale. This practice keeps many lakes and streams from becoming overcrowded and contributed \$4,405.83 to the annual budget during 1964. Of the 145,051 pounds sold, 17,886 pounds went to mink breeders. Another 318,684 pounds of rough fish and salamanders were buried or given away for hog feed.

Fish Production

Gretna Hatchery is a popular stop for thousands of persons traveling on nearby Interstate 80 during the summer months. For their benefit an aquarium is maintained showing the major fish species in the state, and a picnic area is provided for their use. This is primarily a warm water fishery station producing catfish, largemouth bass, bluegill, and redear sunfish. However, the major function in 1964 was to hold and produce catchable size trout for the Two Rivers trout fishing lake near Venice. During the season, 173 delivery trips were made to this lake. Although production for the year totaled only 124,625 fish, compared to 171,027 in 1963, contributions from other hatcheries and the seining crew resulted in a total of 1,456,360 fish being stocked in state waters from this unit, compared to 593,958 fish in 1963.

Valentine Fish Hatchery concentrated much of its efforts in 1964 on experimental work with new fish species and introduction of new fish species on an experimental basis in Nebraska waters. The chain pickerel, acquired from Arkansas, was introduced at this station. Little reproduction was expected the first year as they were quite small. However, late in the season, fingerling pickerel were observed in the more sheltered areas of the pond, and when the pond was drained, 800 pickerel (7-11") were obtained and stocked in ponds in the eastern part of the state.

Another new species, the white perch obtained from New Jersey, was also introduced. Their condition upon arrival left much to be desired. All fingerling were dead or dying with the yearling and adults showing signs of distress. The results after drainage of the rearing pond in the fall revealed more than 500 fingerling from 2-3" in size. In addition, a considerable number of fingerling were found in the two adjoining ponds below. If these fish were able to pass through 1/8-inch mesh screens from pond to pond, there is a good possibility that the Niobrara River below the hatchery is now stocked with white perch.

Other species raised at the hatchery include bluegill, black crappie, brown bullhead, largemouth bass, muskellunge, northern pike, rock bass, Sacramento perch, and smallmouth bass. The total production of 308,141 by this unit (compared to 345,964 in 1963), supplemented with fish from other sources, resulted in 513,598 fish stocked by personnel from this hatchery in 1964, compared to 564,274 the previous year.

North Platte Hatchery produced, stocked, and handled 12,854,885 game fish during 1964, comprising 51,114 smallmouth bass, 6,650,493 northern pike, 6,149,398 walleye pike, 3,380 rock bass and 500 shad.

North Platte Hatchery - cont.

Collection of 142 quarts of walleye eggs in only four days from Lake McConaughy set a new record in time spent for collecting eggs. The taking of two ripe female walleye on May 21 was also a record. This is the latest date that walleye eggs have been taken. The previous record date of ripe female walleye at the lake was May 9. A total of 189 females from Lakes Maloney and McConaughy were stripped of 13,669,150 eggs, of which 3,976,480 were sent to the National Fish Hatchery at Gavins Point.

Northern pike operations accounted for 213 quarts of 13,987,934 eggs, up from 13,136,000 eggs in 1963. However, production yielded only 6,460,918 fry for a 46.2 per cent hatch, down from the 54.3 per cent hatch of 1963, due to a malfunction of recirculation equipment which involved 100 quarts of eggs.

Weather conditions prolonged netting of smallmouth bass fry at Lake McConaughy, and only about 110,000 were taken. These were distributed to the Cedar Bluffs National Fish Hatchery and Colorado Fish and Game as well as retention of some fry at the North Platte Hatchery, where 50,871 were raised to fingerling size.

Rock Creek Hatchery's major function in 1964 continued to be production of catchable size rainbow trout for the Two Rivers trout lake, fingerling rainbow and brown trout for stocking, and some warm water fish for southwestern state waters. For trout production, 10,000 brown trout eggs and 200,000 rainbow eggs were obtained in early spring. From these, 97,302 yearling went to the Two Rivers area. In addition, 7,070 yearling rainbow and 1,000 6-inch brown trout were transferred to the Grove Trout Rearing Station.

Game fish produced and stocked totaled 186,348, comprised of 98,047 rainbow, 6,981 brown trout, 10,600 rock bass, 14,200 bluegill, and 56,520 black bass.

Grove Trout Rearing Station continued to grow catchable size rainbows for Two Rivers trout lake, and also for stocking in northeastern Nebraska. Two severe storms, including a 5-inch rainfall within a 45-minute period and accompanied by hail and winds, washed out fill around piling structure dams and took out a diversion headgate control structure. The loss of this structure cut off the water supply to a series of five trout rearing ponds, forcing closure of three of them and moving fingerling trout into ponds with larger trout. The station produced 45,300 rainbows and 804 brown trout, and sent 39,600 10-inch rainbows to Two Rivers. Fall activities included construction of a temporary diversion structure, and a start of construction of a flood control dike.

Grove Trout Rearing Station - cont.

The Fishery Management section studies, investigates, and manages all waters of the state in an effort to improve fishing for the state's anglers. Fishery management plans formulated by this section guide the efforts of hatchery production and salvage and distribution sections to co-ordinate all management activities in the state.

Panhandle fishery management activities included rainbow trout migration studies in the North Platte River and tributaries above Lake McConaughy, a grasshopper spray program in Sioux County, and pollution investigations. Inter-state chemical pollution from Torrington, Wyoming, was apparently eliminated.

A program of chemical eradication of existing fish populations in all sand and gravel pits containing non-game species was begun. Annual stocking of trout (brown and rainbow) was carried out in nearly all streams with suitable water. From data collected in certain North Platte River valley streams it is obvious that trout stocking is questionable and when the relationship between stocking and its possible contribution to year-class strength in the rainbow migration is fully understood perhaps stocking can be re-evaluated in certain streams.

Sand Hills: extensive lake surveys were greatly expanded in 1964. Current fish population information was obtained for 18 Sand Hill lakes, 64 ponds and pits scattered throughout the region, and several streams. Major renovation projects completed included Minnechadusa Creek and watershed and Long State Lake. Hydrobiological studies commenced on the newly impounded Merritt Reservoir along with the stocking of a quarter of a million trout. There were gratifying returns on the investment as anglers were already harvesting 14-16" trout by late fall.

The Sacramento perch, a new species for Nebraska in 1961, is now well-established in five Sand Hill lakes. The most recent import, white perch, arrived from New Jersey in early 1964, adapted itself to the Sand Hills, and is established in four lakes. The survival and reproduction of white perch in Nebraska illustrates the most westward extension of the range for the species. Previous westward extension was several specimens collected from Lake Erie in 1963. Life history studies, a requisite for any successful exotic fish introduction program, will continue for both species.

Additional water quality data was obtained for 24 alkaline Sand Hill lakes. The formulation of the monograph entitled The Alkaline Lakes of Nebraska was begun. The overall fish success story revealed another good year for the Sand Hills region. The Valentine Refuge Lakes along with Shell, Cottonwood, Hofelt, Swan, Schoolhouse, Clear, Enders, Bull and Willow lakes accounted for about 65 per cent of Sand Hills angling visits. The estimated catch was 1.4 fish per

Sand Hills - cont.

hour or about twice that of the national average. The angling forecast for 1965 was especially promising with Merritt Reservoir, Dewey Lake, Clear Lake, Round Lake and numerous recently created small impoundments entering into the fishing picture.

Northeast fish management during 1964 included state-owned lakes and ponds, warmwater and coldwater streams, and assistance to private pond owners. Lake survey evaluations included mapping, water chemistry, physical characteristics, aquatic vegetation, fish population data, and a creel census. Seining crews continued removal of bluegills from Pibel Lake. Crews also assisted in removal of all fish in O. V. Moore's lake prior to restocking with game fish. Stream work was restricted to bank stabilization work on the east branch of Verdigre Creek and routine survey procedures on all put-and-take trout streams. The heavy rainfall and subsequent flooding in June on three of these streams caused severe erosion to stream banks and fish habitat was seriously affected. Two beaver dams were found on the east branch of Verdigre Creek which could develop into a serious problem for stream fish if water temperatures increase substantially. No active projects were carried out on warmwater streams during 1964.

Personnel checked 102 farm ponds, and approved 58 for restocking. Nine were renovated to remove existing fish populations, and trouble shooting activities (including advice on aquatic weeds, fertilization and reproduction checks) were carried out on 23 ponds.

The creel census indicated that 1,245 white bass were caught, or 21 per cent of the total. Other species counted included walleye/sauger, 921 (15.6%); carp, 877 (14.8%); crappie, 827 (13.9%); and channel catfish, 727 (12.3%). Anglers fished a total of 7,078 hours for an average catch of 0.85 fish per hour or 1.92 fish per fisherman.

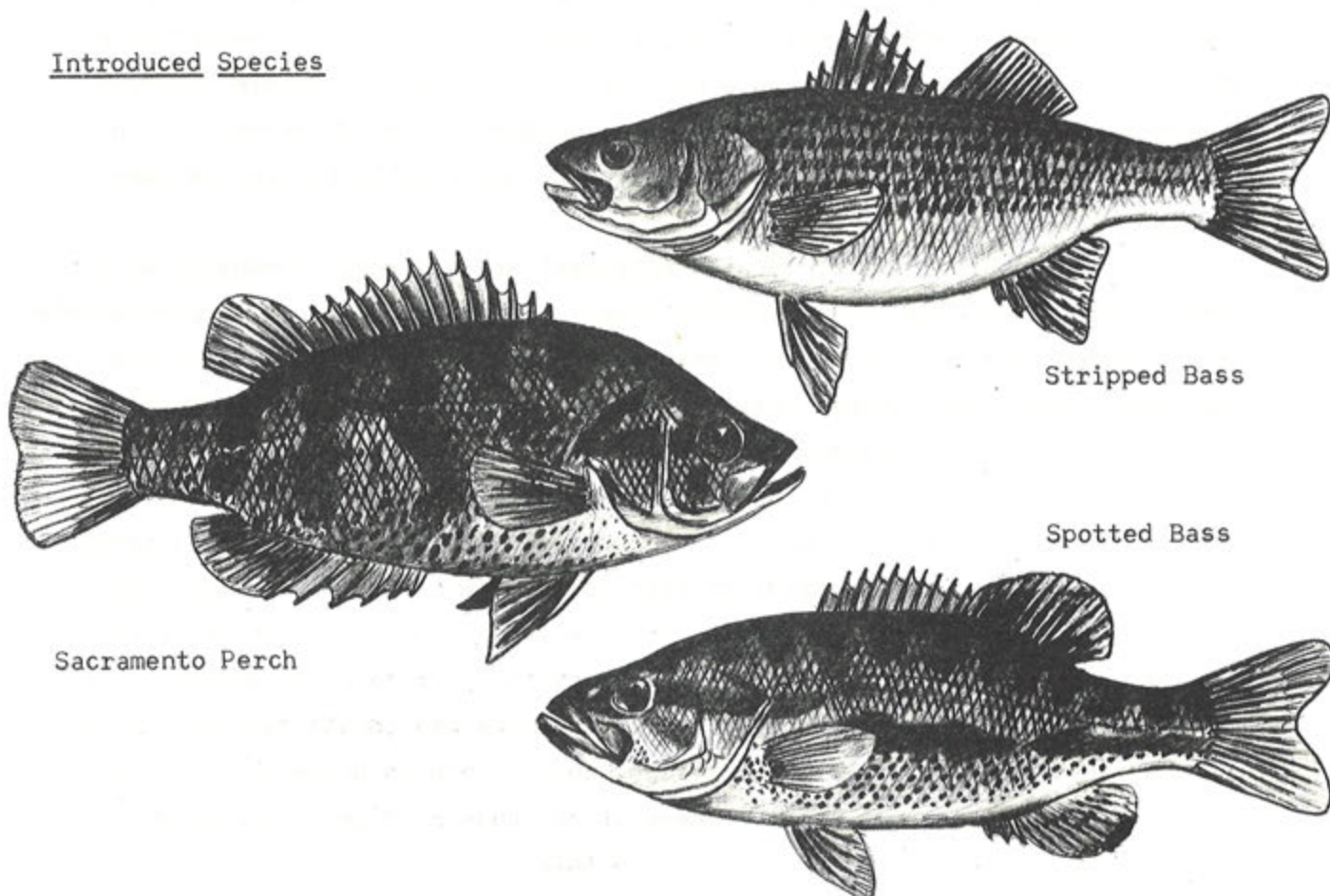
Southwest management activities in 1964 included fish population surveys of reservoirs and state lakes, fish stocking and reconnaissance of pits along Interstate 80, stocking and reconnaissance of private ponds, area creel census, fish cultural work, and fish kill reports. Fish population surveys were conducted on McConaughy, Sutherland, Maloney, Jeffery, Gallagher, Midway, Johnson, Sherman, Enders, Swanson, Red Willow, Medicine Creek, and Harlan reservoirs. Salvage crews removed 72,400 bluegill from Rock Creek Lake and began plans to remove another 125,000 in 1965 from this overpopulated body of water. A total of 35 private ponds were checked in 1964. Three of these were renovated at the owner's expense; 16 ponds were stocked. Four fish kills were investigated during the year. Seven more lakes, totaling 90 surface acres, alongside

Southwest - cont.

Interstate 80 were stocked, bringing the total to 13 lakes with 155 surface acres. Total stockings consisted of 29,998 channel catfish, 24,656 smallmouth bass, 1,800 largemouth bass, 13,283 rock bass, 4,000 minnows, and an undetermined number of crayfish.

Southeast area management activities included management of the Two Rivers trout lake where 30,843 fishermen utilized the trout lake during 254 fishing days. The average number of fishermen per day in 1964 was 121.43 compared with 118.22 in 1963. Anglers caught a total of 105,105 trout for an overall average of 3.41 fish per fisherman. A total of 111,200 trout were used for stocking at the lake at an average cost of \$.52 each, compared to 116,103 trout at a cost of \$.588 each in 1963. Management work continued on the Fremont Lakes Recreation Area and on the Salt Creek reservoirs in 1964. A pre-impoundment study was continued of the Angus reservoir on the Little Blue River. Personnel contacted 283 pond owners when checking their ponds for suitability for stocking or in giving advice on pond management, and renovated 54 private ponds. Sixteen cases of pollution were also investigated. Five hundred cream cans, to be used as catfish spawning devices, were hauled to the Wildlife Building in Lincoln.

Introduced Species



LAND MANAGEMENT

This division is charged with four broad areas of responsibility, all concerned directly or indirectly with the management of land. They include: (1) management of the public lands for game and fish, (2) acquisition of lands for public recreational use, (3) co-ordination with other agencies in planning and implementation of conservation programs, and (4) conservation education. The first category may be further broken down into the management of state-owned refuges, public hunting areas, and special-use recreation areas, the management of reservoirs and other lands leased from various public agencies for wildlife management purposes, and finally the supervision and co-ordination of all agriculturally oriented activities of the Game Commission.

Game and Fish Management

Fifty-five state-owned special use areas, located in 31 counties and comprising 62,000 acres, were managed by this division for public hunting and fishing. Approximately 5,000 acres were managed as waterfowl refuges. The 1,500 acre Plattsmouth Waterfowl Management Area saw a continuing improvement in the buildup of the goose population to a peak of 30,000 geese this year. The Keith-Garden (Clear Creek) Refuge, located at the upper reaches of Lake McConaughy in Garden County, saw a buildup of 6,000 geese, compared to 4,000 a year ago. These concentrations are accomplished by manipulation of food plots and cover types to achieve attractive living conditions for the game species to be managed.

Sacramento-Wilcox Area, located southeast of Holdrege, is managed as a combination refuge and public hunting area. An annual buildup of approximately 50,000 ducks occurs on this 2,300-acre lagoon area. More than 300 million gallons of water were pumped into the lagoon basin for waterfowl production and hunting purposes during the year.

Burchard Lake in Pawnee County, Grove Lake in Antelope County, and Smith Lake in Sheridan County, exemplify the "special use" recreation areas, where a wide variety of less intensive recreational and wildlife management uses are made available. Such activities as picnicking, camping, fishing, hunting, and boating may take place on the same tract that serves as a refuge during certain seasons. Such apparently conflicting uses are compatible as long as seasons of use do not materially overlap, and as long as numbers of people visiting the area are not great. These areas range in size from Lake McConaughy (42,000 acres) to Blue Bluffs (4 acres).

Game and Fish Management - cont.

In addition to state-owned lands, the Land Management Division manages and maintains some 28,000 acres of federally-owned land, including such Bureau of Reclamation reservoirs as Enders, Swanson, Medicine Creek, and Red Willow in southwestern Nebraska. Management of the 5,700-acre Sherman Reservoir, northeast of Loup City, was assumed during the year with an area manager stationed in Loup City. Negotiations are under way in regard to management of the 9,500-acre newly completed Merritt Reservoir in Cherry County.

The division is also responsible for wildlife management of the Corps of Engineers reservoir, Gavins Point, and for the Salt-Wahoo reservoirs, near Lincoln. Seven hundred acres were seeded to grass and legumes on the Salt-Wahoo sites during the year. An estimated 200 pheasants and 400 quail were killed on these sites on opening day in 1964. Several hunting dog trials were held on two of these areas. During the year an additional two reservoirs, Conestoga and Pawnee, were taken under management. Approximately 6,300 acres of land is included in this complex.

Land Acquisition

During the year about 7,400 acres of new lands were purchased for public recreation and wildlife management uses.

Cornhusker Ordinance Depot -- 814 acres of land were purchased from the Government Services Administration on this army ordinance grounds. The area will be managed as a special-use recreation area with emphasis on public hunting and upland game bird production.

Platte Valley -- 143 acres of land were acquired in the Platte Valley for fish and wildlife management in conjunction with the Interstate highway construction program. At the request of the Governor, a plan of wildlife and recreation development for Interstate 80 from Grand Island to Lexington was submitted.

Limestone Bluffs -- 480 acres in southeastern Franklin County were acquired as a public hunting and game production area.

Wilson Tract -- 800 acres in Pawnee County were acquired as a game management area and will be preserved as native grassland.

Alkali Fish Camp -- Public access to the 800-acre Big Alkali Lake in Cherry County was purchased during the year. A 40-acre fish camp and recreation site were also acquired.

Land Acquisition - cont.

Lambert-- 1,320 acres of ranchland were acquired in Sioux County to supplement a tract already owned and managed for public hunting and for turkey, deer, antelope and grouse.

Spittler Tract -- 200 acres of land acquired in Antelope County, adjacent to the Commission's Grove Lake area. This tract will become a part of the Grove Lake complex and will allow treatment of the watershed above the lake to help alleviate siltation problems.

Park Rim -- This 3,659-acre Pine Ridge ranch was acquired during the year. It will be managed for turkeys, deer, and grouse. Public hunting will be allowed.

New Developments

Approximately seven miles of road, two boat ramps, and five acres of parking lots were constructed on areas managed by the Land Management Division during the past year. Numerous picnic tables, fireplaces, several wells, and toilet facilities were also provided. Approximately 70,000 trees and 500 acres of grass and legumes were planted on Commission-controlled lands. In the Platte Valley, considerable work was done in construction of levees to protect sand pit lakes from river flow. At Lake McConaughy, three large parking lots were constructed, one concrete boat ramp was built, and a site was graded for location of a headquarters building to be constructed in 1965. A two-acre trout pond was constructed on the Gilbert-Baker Area in Sioux County, and six small erosion control dams were built on the Grove Lake Area in Antelope County.

Co-ordination With Other Agencies

In planning and implementation of conservation programs, co-ordination of activities with other agencies is essential.

Considerable time is spent in working with such federal agencies as the U.S. Fish and Wildlife Service, Bureau of Reclamation, Corps of Engineers, Soil Conservation Service, Agricultural Stabilization and Conservation Service, Bureau of Outdoor Recreation, and with such state departments as the State Soil and Water Conservation Commission, State Department of Roads, University of Nebraska, and others. County and local agencies also are involved.

The Agricultural Conservation Program of the Department of Agriculture is an area where the Land Management Division of the Game Commission assumes a large responsibility. Personnel offer planning assistance and are responsible

Co-ordination With Other Agencies - cont.

for the approval or disapproval of proposed "G" practices available under the A.C.P. program. A "G" practice is one in which a landowner may obtain cost-share benefits in applying conservation practices to his land which are of special value to wildlife.

Ninety-two "G" practices involving 155 acres and 90 landowners were arranged in the state during the year. The watershed program of the SCS and the State SWC Commission is another area of responsibility delegated to the division. Fifty-three watersheds are organized and making construction developments at the present time. Nineteen more are in the planning stage.

During the year a "first" was accomplished by the planning of a specific watershed structure for recreational development. This was the 4-J Structure located in the Mud Creek Watershed of Gage County. The Commission offered assistance in development and management responsibilities.

Preliminary investigations were made of the proposed Beaver Crossing, Spaulding, Angus, and Branched Oak Reservoir projects in conjunction with the planning, advisory, and regulatory agencies.

Other groups worked with during the year are: (1) the Wild Rivers task force of the B.O.R.; (2) The River Basins Study Group; (3) The State Development Committee of the A.S.C.S. and (4) Bureau of Reclamation.

Conservation Education

The division carries the primary responsibility for presenting the Conservation Education story to the youth of the state. This involves working with youth groups and their adult leaders, informing them of basic wildlife principles and demonstrating their application. The program is focused toward the development of a conservation ethic by Nebraska young people. Groups involved include 4-H Clubs, F.F.A. Chapters, Boy Scouts, Girl Scouts, school classes, and various camp groups.

A monthly publication, "The Wildlife Guide", is written by division personnel and distributed to youth leaders throughout the state.

Summary

The Land Management Division serves as a bridge between knowledge and action in the conservation and use of the state's wildlife and recreational resources. Current technical information obtained from highly trained specialists of other divisions is applied to the actual and practical management of land. This application takes various forms. Lands owned by the

Summary - cont.

state can be managed closely with considerable flexibility of decision. Management of lands leased from other agencies must operate within a framework of some restrictions, and necessarily entails a high degree of co-ordination. Management of privately-owned lands for the benefit of wildlife and recreation results from co-operative efforts with these landowners and operators.



F E D E R A L - A I D

The so-called P-R (Pittman-Robertson) and D-J (Dingell-Johnson) funds are monies paid as excise taxes by hunters and fishermen to be used for the restoration of wildlife resources. The federal government acts as "banker" for the funds, and apportions them to the states and territories annually according to a prescribed formula. To insure that the funds are not diverted to other uses the law makes them available only for acquiring and developing land and water areas, for performing research and management, and for administering the program.

Before any project is initiated, detailed plans are submitted to the administering federal agency for approval. The work proposed is then performed at state expense after which 75 per cent of the state's costs are reimbursed from the federal aid funds.

During 1964 funds made available to Nebraska totaled \$314,347.75 for game work (P-R) and \$105,004.13 for fisheries work (D-J). Actual expenditures, including the state matching funds, were as follows:

Land Acquisition:

| | | |
|------------------------|------------------|--------------|
| Grove Lake area | \$ 9,768.75 | |
| Platte Valley Lands | 913.58 | |
| Big Alkali Lake Access | 14,317.50 | |
| Wilson Prairie Areas | 29,000.00 | |
| Brookens Farm | <u>31,920.00</u> | |
| | | \$ 85,919.83 |

Development:

| | | |
|---------------------------------------|------------------|--------------|
| Platte Valley Development | \$ 6,249.88 | |
| Habitat Restoration | 100,721.66 | |
| Sacramento Game Management Area | 34,500.00 | |
| Plattsmouth Waterfowl Management Area | 21,000.00 | |
| Keith-Garden Goose Management Area | <u>14,694.30</u> | |
| | | \$177,165.84 |

Research:

| | | |
|--|-----------------|--------------|
| Fisheries Inventories and Investigations | \$ 41,985.22 | |
| Pheasant Life History and Ecology | 19,359.86 | |
| Ecology and Management of Prairie Grouse | <u>9,174.00</u> | |
| | | \$ 70,519.08 |

Coordination:

\$ 20,129.75

\$ 20,129.75

Total

\$353,734.50

R E S E A R C H

In a progressive fish and game program problems must be subjected to constant probing, and new ideas and management techniques must be tested. This is the work of the research section. Nebraska employs a full-time staff of seven research biologists and one associate biologist. They are expected to work with other specialists, not only from the wildlife agencies but also with educational institutions, private industry, and many others to design, carry out, and analyze research.

Missouri River Studies

Man's manipulations in and along the Missouri River continue to alter the character of that stream and to modify the fauna. Studies are helping to meet the need for increased knowledge of the fishery and ecology of this large river.

Average standing crops of bottom-dwelling fish food organisms were small, averaging 0.65 pounds per acre in both channeled and unchanneled portions of the river. The acres of water per linear mile of unchanneled river was three times that of the channeled portion. A second group of potential fish food organisms, those which drift with the current, was also studied. The total standing crop of members of this group was also greatest in the unchanneled section. Approximately 1,150 pounds drifted past a fixed point in 24 hours compared to 650 pounds in the channeled section.

Initial life history investigations of channel and flathead catfish were completed in 1964. Studies showed that adults of both species grow faster and have a shorter life span in the channeled section.

Studies of sauger populations were undertaken to learn more about migration patterns and year-round locations of this important sport fish. Results indicated the summer-time location of young members of the population, but showed the need of more extensive studies to pinpoint locations of adults during the summer months.

Instruments For Use In Fish Management Research

Work was conducted on the development of two instruments which, if they prove practical for field use, will be significant in solving two major problems: (1) control of aquatic vegetation which shelters too many small fish and results in a stunted fish population and (2) following and locating fish to learn their movements, use of habitat, and other vital information.

Instruments For Use In Fish Management And Research - cont.

Although aquatic herbicides are available for the treatment of undesirable weeds in lakes, these are expensive, frequently unreliable, and sometimes build up harmful residues in the bottom materials of lakes. The feasibility of using high intensity ultrasonic vibrations to destroy weeds was investigated, and destruction of algae was accomplished in the laboratory. However, these studies indicated a breakthrough is necessary before field use is practical.

Investigation into locating fish in their natural habitat also utilizes ultrasonic vibrations but offers more hope for a practical field device: a small transmitter which can be placed in the stomach of a fish, and powered by a battery using the gastric juices of the fish as the electrolyte. Although tests have indicated that the gastric battery would power the transmitter for a year or more, the transmission range was very short. To increase the range, a dry-cell battery providing higher voltage and current may be needed. This would limit the life of the unit but result in a greater transmission range.

Ecology of the Little Nemaha River

Investigations continued in 1964 to document the ecology of the upper Little Nemaha River to determine the effects of a small watershed development project. The aim was to evaluate some of the effects of man on the stream resulting from channeling and impoundment, from his direct use of the water for irrigation and sewage transportation, and his indirect use through pollution by agricultural chemicals and soils.

A gas chromatograph, fitted with an electron capture detector, will be used to detect chlorinated hydrocarbon residues contained in extracts of previously collected tissues taken from 155 fish. Preliminary analyses identified chlorinated hydrocarbons, aldrin, dieldrin, DDT and its metabolites, heptachlor and lindane.

Spines and stomachs were collected from channel catfish, black bullheads, and yellow bullheads to determine their age, growth and food habits. The species composition and distribution of fishes for the entire drainage was completed.

Of the 1,672 fish tagged to determine possible movement patterns, 69 were recaptured. Movement was essentially upstream in 1963; however, in 1964 a downstream movement was noted.

Three collecting stations were set up to determine the abundance of bottom-living invertebrates. These organisms were more abundant and diverse

Ecology of the Little Nemaha River - cont.

in the unchanneled portion of the stream than at either of the stations classified as being channeled or as unchanneled but seriously affected by channeling.

Pool frequency was determined for 14.8 miles of the 34 miles of stream that compose the study area, as well as other physical characteristics of the stream. Adjacent lands were mapped so changes in land use can be documented.

Incidental to the ecology study, a number of artifacts of archeological interest were collected from the stream bed. A technical publication in conjunction with a Smithsonian Institute archeologist (Neuman, et al., 1964) resulted.

Insecticide Study

Investigations were initiated to determine if a relationship exists between the pattern of usage of chlorinated hydrocarbons and the concentration of their residues in channel catfish collected from the major drainage systems of Nebraska. In addition, information will be gained which may be useful in determining to what extent Nebraska contributes chlorinated hydrocarbons to the pollution of the Missouri River. Twenty-one stream sites, representing all of the major watersheds, were selected for study. However, channel catfish could be collected from only 18 of the sites.

Fat samples were taken from the abdominal cavities of 10 channel catfish captured at each of the 18 stream sites. A minimum of one composite blood sample was also taken from the fish in each collection.

The alkaline hydrolysis extraction procedure will be employed to extract the chlorinated hydrocarbons from each sample. Quantitative and qualitative analysis using a gas chromatograph fitted with an electron capture detector will then be carried out.

Information gained from this study should provide understanding of the presence of chlorinated hydrocarbons in fish and their effects on fish populations.

Occurrence and Distribution of Invertebrate Populations in Selected Sand Hill Lakes

Identification of aquatic invertebrates collected in selected Sand Hills lakes was completed in 1964. These identifications have demonstrated that lakes having light alkalinity concentrations (less than 1,000 ppm) contain more species of these small animals than do the lakes with higher alkalinity values. The less alkaline lakes also support fish populations while the others do not. Several

Occurrence and Distribution of Invertebrate Populations - cont.

groups of aquatic invertebrates are found only in the less alkaline lakes, and are therefore indicators of suitable fish habitat in Sand Hills lakes where alkalinity is a primary factor of the environment.

During August one of the study lakes was revisited to obtain more specimens of a previously unnamed leech for use in making an original description of this species.

Bluegill Growth in Sandpits in Nebraska

This study was initiated to explore new means of meeting intensive fishing expected at certain sandpits. Previous work demonstrated the possibility of establishing a bluegill fishery based on a system of annual renovation and restocking of sandpits in September. During 1964, work was planned to include additional study of this method of sandpit management.

Bluegills stocked in six sandpits in September, 1963, grew rapidly and by the end of May, 1964, the fish in most of these sandpits were large enough to provide good fishing. These fish were removed, and the sandpits were restocked with slow-growing adult bluegills in September so additional information concerning growth rates could be recorded in the spring of 1965. Standing crops of fish food organisms were determined and correlated with bluegill food habits in an effort to find ways of causing even more rapid growth rates. The curtailment of bluegill reproduction by radiological and chemical methods was investigated as a means by which annual renovation would become unnecessary.

Life History and Ecology of the Pheasant in Nebraska

Research dealing with the life history and ecology of the pheasant was conducted during the year at Harvard and Clay Center study areas. Cover-mapping there showed approximately 94 per cent of the land under intensive agricultural use, most of this planted to corn, wheat, and milo.

In the nesting study conducted on the seven-square-mile Harvard area, 101 nests containing 716 eggs were found. Nineteen of these, containing 141 eggs, were successful. Their distribution by cover type was: wheat, 11 nests; roadside, 4; pasture and hay, 3; and alfalfa, 1. On the nine-square-mile Clay Center area, 233 nests containing 1,577 eggs were found. Twenty-eight nests, containing 222 eggs, were successful. Eleven of these were in pasture and hay, six in unused areas, four in wheat, three in roadsides, and two each in conserving acres and experimental alfalfa. An average of 7.7 eggs were hatched in

Life History and Ecology of the Pheasant in Nebraska - cont.

each successful nest. Brood route counts on and around the study area showed 2,425 chicks in 534 broods for an average brood size of 4.5.

Some 93 per cent of the hunting effort and 90 per cent of the kill occurred during the first 31 days of the season. The rate of success was 4.1 hours required to bag a cock, equaling the average for the past 10 years on the study areas.

Field work was initiated to study broods of different ages and to determine their use of various cover types at different times during the day.

A survey of landowners was conducted to determine the nature and extent of pesticide applications in 1964.

A total of 267 eggs from abandoned or partially destroyed nests and 8 birds found dead on the study area was collected for pesticide analysis.

These and many other facets of pheasant ecology have been studied in detail for the past 10 years. Intensive work on the analysis and publication of this information is under way and is expected to take at least two years.

Ecology and Management of Prairie Grouse

Research on the plains sharp-tailed grouse and the greater prairie chicken was conducted at the Bessey Division of the Nebraska National Forest, with limited field work conducted on the Swan Lake and Loup County study areas near Burwell.

The spring display ground inventory at the forest indicated a mean density of 4.4 male grouse per section, a substantial decrease from 1963. However, summer transects indicated densities comparable to 1963 on the Swan Lake area and the national forest with a substantial decrease in the Loup County area.

Hunting success at the national forest was down somewhat with 1.1 grouse taken per hunter per day and 3.8 hours the average time spent bagging a grouse. The 47.7 per cent increase in hunters from 1963 was thought principally due to larger bag and possession limits (increased from two daily and four in possession to three and six respectively).

A total of 170 grouse was banded during the year. Seven band returns showed movements ranging from zero to two miles from the trap site.

Due to the difficulty of finding prairie grouse nests through conventional means, a reward was offered for grouse nests in Blaine and Thomas counties. Interested parties reported 23 nests, and Game Commission personnel located two others. Of the total, outcomes of 24 were recorded. Sixteen of these hatched, a success rate of 67 per cent. Most nests were found on north or east slopes

Ecology and Management of Prairie Grouse - cont.

of high hills which had received little or no grazing use.

In contrast to areas used for nesting, broods were usually found in valleys which contained a greater proportion of weeds. Such areas are used for brooding and not nesting because (1) food is probably more abundant in such areas, particularly insects which are quite important to young grouse, and (2) vegetation in these areas provides little cover during the period when nests are under construction but attain a fair amount of growth by the time broods appear.

The compilation of such data has led to a basic understanding of the habitat requirements of the two species in the Nebraska Sand Hills, and a habitat management program will be initiated in the near future at the national forest. More work is needed on the ecology of these grouse to determine which habitat management measures are necessary and feasible.

Dissemination of Findings

Research personnel made numerous public appearances during the year. In addition to these the following formal presentations of research results were made:

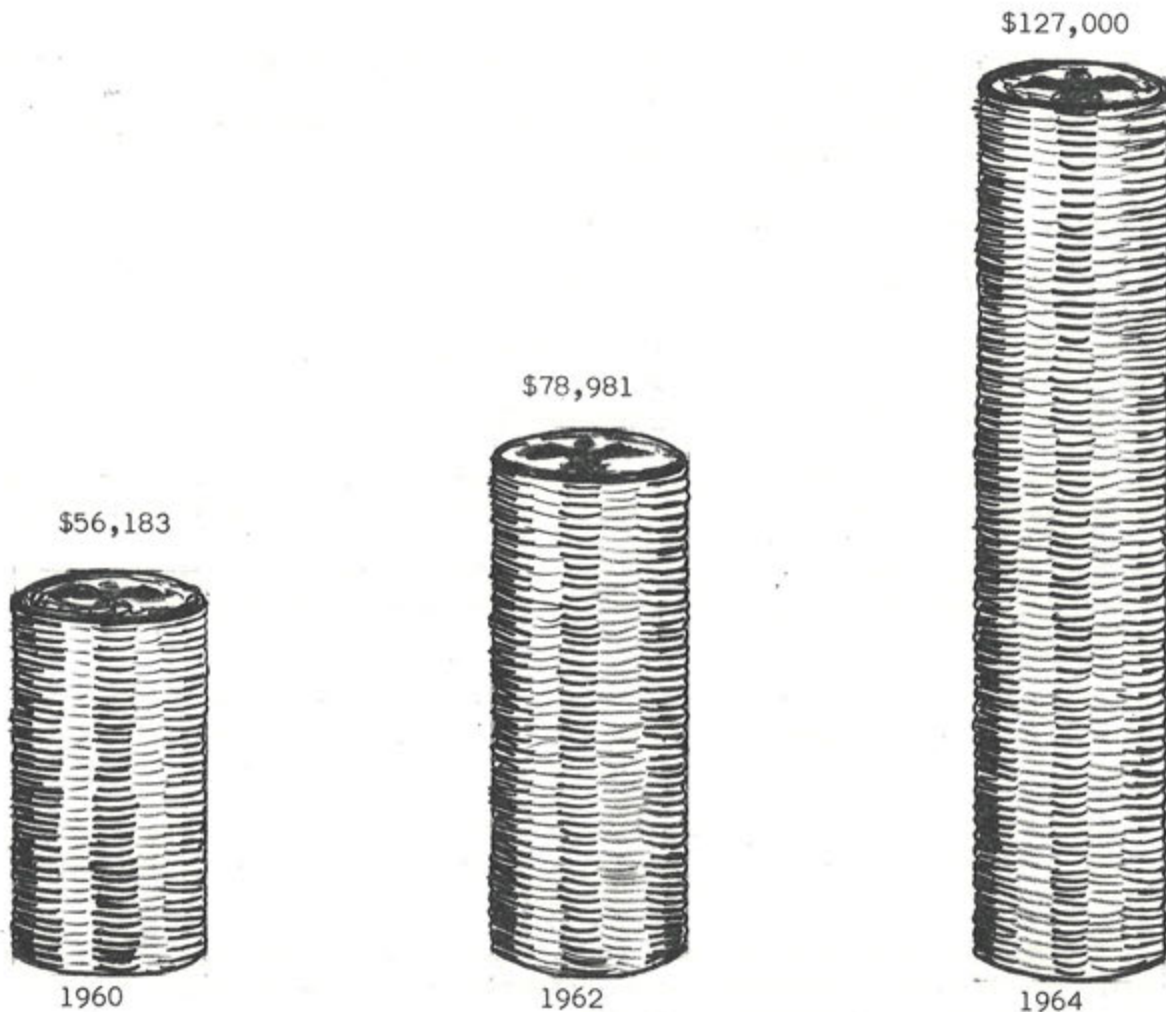
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- Russell, Thomas R. 1964. Age, growth and food habits of channel catfish in channelized and unchannelized portions of the Missouri River (oral presentation). Twenty-sixth Midwest Wildlife Conf. Bloomington, Indiana.
- Witt, Larry. 1964. Effects of chlorinated hydrocarbons on wildlife and related Commission policy (oral presentation). Nebraska State Pest and Termite Control Ass'n. Nov. 13. Omaha, Nebraska.
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P A R K S

The Division of State Parks within the Commission consists of five sections: State Parks, State Historical Parks, Wayside and Platte Valley Parkway, Engineering, and Planning.

State park areas within the Commission are classified into four categories: State Parks, State Historical Parks, State Wayside Areas, and State Recreation Areas.

The popularity of state parks continued to grow with people both in and out of state. During 1964, state park visitation and income records were broken. Park income reached an all-time high of \$127,000. Total visitation at all state park areas in 1964 is estimated at 4,700,000 persons. Attendance at park areas was estimated at 4,200,000 persons in 1963.



State Parks

Chadron: Work on the multi-thousand dollar group camp complex began in September, 1964. The smartly designed camp dormitories were constructed to house either group visitors or for conversion into cabin units for family-type use. Some 212,161 registered guests from 46 states and several foreign countries utilized facilities at the park in 1964. Swimming at the modern fan-shaped swimming pool and horseback rides through the park again proved popular with visitors.

Fort Robinson: The seventh year of operation at this park saw the inauguration of stagecoach rides, addition of nine new rooms at the lodge, and kitchen units added to four cabins. During 1964, the Parks Division assumed management for the direct operation of the lodge restaurant and expanded the facilities and serving area. A large number of civic and professional groups utilized the park facilities for conference purposes. Among those visiting the park were Boy Scouts attending the first Nebraska Jamboree, Bible and 4-H groups, tours, and University organizations.

Indian Cave: This new park area will be acquired and developed under the 10-year State Park Program. It will be designed to serve as a major facility in the system. Additional land acquisition was made for the area during 1964, bringing the total land acquired to over 1,000 acres. Initial development of the area is scheduled to commence in 1965.

Niobrara: A marked increase in camper and cabin guests was experienced at this park in 1964. Approximately 2,800 cabin guests and 3,600 tent and trailer campers visited the area. Almost 1,200 persons used the group camp facilities. Income was up about 25 per cent over the previous season. Horseback riding and swimming continued to be popular activities at Niobrara.

Ponca: Camper and cabin guests set an all-time high at Ponca during 1964. Over 2,100 cabin guests and 6,700 tent and trailer campers were registered. Park income climbed to the highest amount ever reached in the area's history.

State Historical Parks

Arbor Lodge: The purpose of Arbor Lodge is to encourage people to appreciate the beauty and significance of trees and other forms of plant life and to better understand the history of our country and state. Visitors from all 50 states and several foreign countries came to the park in 1964, the 90th anniversary of Arbor Day. During the spring, nearly 100 trees were planted at the park, and over 1,000 seedlings and walnut seeds were set out during the fall.

State Historical Parks - cont.

Fort Kearny: With access to Fort Kearny made easy by completion of the hard-surfaced State Highway 10, increasing numbers of visitors--about 25,000 compared to 13,000 in 1963--came to the area to learn about its history and the restoration program. Archeologists from the State Historical Society carried out several projects for restoration purposes at the area during early summer under co-operative agreement with the Commission. Considerable earthwork was accomplished for landscape and maintenance purposes and grass planted to beautify the park grounds.

Scouts Rest Ranch: During 1964, restoration of the barn, house, and grounds continued. The bridge abutments were poured, and road improvements surveyed. The site for the new superintendent's residence and office was laid out. All old fencing was removed and grass seeding accomplished to stabilize a part of the grounds. A foundation was poured for establishment of a log cabin relative to the interpretive program. Much effort was placed toward the collection of artifacts for the park museum. Formal dedication and opening of the park are scheduled for 1965.

Other: Restoration activities at Fort Hartsuff were continued in 1964 on several buildings at the site. Work will continue on the restoration program in 1965. Further archeological investigations were conducted by the State Historical Society at Fort Atkinson during the 1964 summer months. These investigations set the stage for future development of this park. Extensive development at Ash Hollow was delayed during 1964 pending the acquisition of additional lands. Minor improvements were made to the area including the placement of new roofs on the house and cabin.

State Recreation Areas

Fremont: This area again contributed to the enjoyment of many visitors in 1964. Major improvements at the area included the construction of a new camping area on the south side of the channel between lakes 15 and 16. Road turnoffs were built, and a well was developed. Beaches at Lakes Nos. 10 and 20 were dredged to improve the swimming facilities.

Lewis and Clark: In conjunction with its maintenance program at the reservoir, the Commission continued its expansion and improvement of recreation facilities during the year. At South Shore, new tables and signs were added. Reseeding of the use area was accomplished. At Weigand, considerable seeding was accomplished through the use area, and trees were pruned. The

State Recreation Areas - cont.

swimming beach area was improved and new tree plantings established. New picnic tables were added. At Bloomfield, ditches and washes were filled; grass seeding accomplished; tree plantings were made; new picnic tables added. At Miller Creek, a portion of rough land area was leveled; reseeding was accomplished; picnic tables were placed on the area; a new water well was constructed, and trees were planted. At Santee, new tables were added, and tree plantings accomplished.

Salt-Wahoo Reservoirs: Underco-operative management agreement with the Army Corps of Engineers recreational development was initiated by the Commission on several reservoirs situated in the Salt-Wahoo Watershed District in southeast Nebraska. In Lancaster County, development of public recreation areas continued. Picnic areas, access roads, sanitary facilities, boat ramps, and docks were constructed at Site 4 (Bluestem), and Site 8 (Wagon Train), and were opened to public use. A beach area was also established at Wagon Train. Similar developments got under way at Site 9 (Stagecoach), Site 2 (Olive Creek), Site 12 (Conestoga), and Site 14 (Pawnee).

Visitation at Bluestem and Wagon Train Recreation areas is estimated at 325,000 persons for the period July 1 - December 31, 1964.

Stolley: Camper and day-use visitation broke all previous records at Stolley during 1964. Over 8,600 visitors camped at the area, an increase of 1,500 over 1963. A small number of whitetails and mule deer are exhibited here for visitors.

Two Rivers: Two Rivers began its fifth year of operation on April 1 and remained open to public use until December 10. Possible threat of spring flooding from the Platte River did not occur at the area in 1964. Opening day for the trout lake resulted in 766 fishermen purchasing trout tags for the special put-and-take lake. The fishing public purchased a total of 30,848 trout tags at the area during the season. Facilities at the area's concession building were expanded by the lessee to include enlargement of the customer service area and addition of more and varied customer goods. Earthwork was completed for the new overnight camping area, and final grading of the gravel surfacing of the service road was accomplished. Overnight tourist guests from nearly all states and eight foreign countries visited the area. Overnight camping of organized groups was quite common, with Boy Scout, 4-H, school and church groups using the area's facilities in large numbers. Trees were planted on 27 acres of former crop land during the spring.

State Recreation Areas - cont.

Victoria Springs: Visitations were down slightly from the previous year, probably as a result of road construction on State Highway 2 between Merna and Anselmo during part of the season. In co-operation with residents of the area, a 1.2-acre parcel of land adjacent to the park was acquired on a matching-fund basis.

Lake Ogallala: This area, located directly below Kingsley Dam, consists of 531 recreational acres, including 320 acres of water. The area is used extensively for camping, swimming, boating, water-skiing, and fishing. Capital improvements included the construction of six-tenths mile of road and a parking area on the west side of the recreation grounds; establishment of two additional parking areas, totaling three acres; all slopes of the parking lots and connecting roads seeded with grass; numerous trees planted on the slopes; and installation of a new water well and additional fireplaces.

State Wayside Areas

Three wayside areas located at Fairmont, Hastings, and new Guide Rock were substantially completed in 1964. Acquisition was completed on additional wayside areas in the Hastings area, and initiated on the proposed wayside area north of St. Paul. Acquisition activities in the Wymore and Syracuse areas are continuing. Overall public usage of wayside areas continued the increase of the recent years, largely due to increasing travel by the American public, and an improved maintenance in the Nebraska wayside area system.

A superintendent was appointed for the wayside area south of Gibbon effective November 15, 1964, and cleanup and development was begun on this area, the first on the Platte Valley Chain-of-Lakes Road Ranch System.

STATE PARK AND RECREATION AREA INCOME

| <u>AREA</u> | <u>AMOUNT</u> |
|--|--------------------|
| Arbor Lodge State Historical Park | \$ 7,634.75 |
| Chadron State Park | \$ 20,928.69 |
| Fort Robinson State Park | \$ 52,567.21 |
| Niobrara State Park | \$ 19,616.17 |
| Ponca State Park | \$ 17,006.10 |
| Stolley State Recreation Area | \$ 1,051.80 |
| *Two Rivers State Recreation Area | \$ 7,316.90 |
| Victoria Springs State Recreation Area | <u>\$ 1,393.20</u> |
| | \$127,514.82 |

*\$57,842.50 also collected at Two Rivers in conjunction with fish and game activities during 1964.

VISITATION

The following table shows visitation figures at certain state park and recreation areas. Figures are based upon car count and estimate methods:

| <u>AREA</u> | <u>1962</u> | <u>1963</u> | <u>1964</u> |
|--|---------------|---------------|---------------|
| Arbor Lodge State Historical Park | 106,716 | 112,714 | 118,544 |
| Chadron State Park | 221,003 | 257,490 | 212,161 |
| *Fort Kearny State Historical Park | * 22,000 | * 13,000 | * 25,000 |
| Fort Robinson Park | Not Est. | Not Est. | Not Est. |
| Niobrara State Park | 90,911 | 89,385 | 110,757 |
| Ponca State Park | 110,344 | 121,942 | 167,322 |
| Stolley State Recreation Area | 108,790 | 159,920 | 171,635 |
| Two Rivers State Recreation Area | 221,334 | 276,913 | 280,000 |
| Victoria Springs State Recreation Area | <u>41,202</u> | <u>42,413</u> | <u>38,136</u> |
| | 922,300 | 1,073,777 | 1,123,555 |

*Figures estimated. Area under development.

CABIN GUESTS

| <u>AREA</u> | <u>1962</u> | <u>1963</u> | <u>1964</u> |
|--|-------------|-------------|-------------|
| Chadron State Park | 2,848 | 2,706 | 3,015 |
| Fort Robinson State Park | 2,926 | 2,880 | 3,293 |
| Niobrara State Park | 2,256 | 2,434 | 2,833 |
| Ponca State Park | 1,771 | 1,940 | 2,155 |
| Victoria Springs State Recreation Area | <u>661</u> | <u>406</u> | <u>370</u> |
| | 10,462 | 10,366 | 11,666 |

Cabin receipts for 1964 amounted to \$41,866.00 at State Park Areas as compared to \$38,397.50 during 1963. The figures show that the total number of cabin guests in 1964 amounted to 11,666 persons as compared to 10,366 guests during 1963. Total cabin guest nights numbered 25,662 during 1964, as compared with 22,115 during 1963.

CAMPERS

There were 4,996 more individual campers in 1964 than during 1963. Group campers dropped in numbers since the Chadron group camp was closed for construction of new facilities. (See Table next page)

| <u>AREA</u> | 1963 <u>Individual</u> <u>Campers</u> | 1963 <u>Group</u> <u>Campers</u> | 1964 <u>Individual</u> <u>Campers</u> | 1964 <u>Group</u> <u>Campers</u> |
|--|---|--|---|--|
| Chadron State Park | 11,225 | 691 | 10,928 | None |
| Fort Robinson State Park | 6,671 | None | 7,229 | None |
| Niobrara State Park | 3,149 | 1,081 | 3,647 | 1,162 |
| Ponca State Park | 5,459 | 259 | 6,764 | None |
| Stolley State Recreation Area | 7,100 | None | 8,640 | None |
| Victoria Springs State Recreation Area | 1,456 | None | 1,292 | None |
| Two Rivers State Recreation Area | <u>13,761</u> | <u>None</u> | <u>15,317</u> | <u>None</u> |
| TOTAL | 48,821 | 2,036 | 53,817 | 1,162 |

ENGINEERING AND OPERATIONS SECTION

In February, 1963, the Engineering and Operations Division of the Commission was reorganized as a section of the Division of State Parks. The duty of the Engineering Section is to insure the development proposals of the several Commission divisions are designed and constructed in a professionally correct manner and in accord with the provisions of 81-855, Revised Statutes of Nebraska.

The engineering segment of the section is headed by a registered professional engineer and comprised of such technical staff as necessary to accomplish its mission.

Efforts of the Engineering Section have been directed toward improvements and new features on areas managed by the Commission throughout the state.

Among the many projects accomplished during 1964 by the Engineering Section was the completion of the department's new district office building at Alliance; a concrete boat ramp and gravel-surfaced parking lot at the Lemoyne area; an "overlook" parking area facing the reservoir at the east end; a new parking area to serve the boat ramp at the spillway area; the construction of a concrete dam forming a water reservoir for game animals at the Wildcat Hills refuge. At Niobrara State Park, improvements were made on the water supply system, and chlorinators were installed to insure a potable water supply; in Sherman County two projects, under the Federal Accelerated Works Program, were completed under Game Commission sponsorship and direction; at Long Pine State Recreation Area, topographic aerial mapping was carried out along the Pine Creek Canyon; beach and road work was done at Fremont, Louisville, and Memphis state recreation areas.

Engineering and Operations Section - cont.

These represent only a few of the diverse projects carried out by the Engineering Section. Many other small projects or jobs were performed by the section, including surveys and studies relating to project construction, drafting and design.

The other segment of this section consists of operation and maintenance crews who perform housekeeping duties, minor repairs, and improvements on primarily unmanned areas managed by the Commission. The crews are headed by a senior superintendent headquartered at Lincoln. Six crews are located throughout the state, headquartered at Chadron, Gering, North Platte, Grand Island, Bassett, and Lincoln. They operate on a reduced personnel basis during the winter months. Temporary help is hired during the heavy-use season to supplement permanent crews.

A sign shop was added to the Parks Division on July 1, and is headed by a superintendent responsible for the many signs necessary to Commission operation. Emphasis was placed on master sign layouts which give maximum readability and uniformity.

L A W E N F O R C E M E N T

The primary function of this division is to enforce laws and regulations pertaining to wildlife, boating, and the state park system. Officers also play a part in the Civil Defense program and are sometimes called upon by other law enforcement agencies to assist in the investigation or apprehension of persons involved in various crimes.

Work schedules of the conservation officer included an average of 12 hours a day, six days per week including Saturdays, Sundays, and all holidays, and standby service 24 hours a day throughout the week. Officers patrolled the fields, roads, woods, and waters on motorboat, foot, or canoe, automobile, aircraft, and in some instances on horseback. Two-way mobile radios assisted greatly.

Aside from law enforcement duties, field officers assisted in many phases of fish and game management, conservation education programs, and various public relations efforts. Various surveys of fish, game animals, game birds, migratory birds, and other protected species of wildlife, and the seining and stocking of fish were performed.

Officers presented programs at 550 meetings--13 more than in 1963-- for various groups, and took part in numerous sports and travel shows, fairs, and radio and television programs.

The division had a maximum complement of 43 officers in 1964--1 section chief, 1 pilot-communications officer, 5 district supervisors, 1 officer-pilot, and 35 area officers. Seven new officers were employed to fill vacancies created by the death of H. Burman Guyer, resignations, and the manning of the new Ainsworth station. Officers in this section drove a total of 1,615,151 miles with an average cost of 5.36 cents per mile including all fuel, oil, tires, repair, and special equipment for their patrol cars.

The Commission's Cessna 210 aircraft was flown a total of 457 hours, including 6.5 hours of night flying. Use of this aircraft was mainly to transport department personnel, deer and antelope surveys, waterfowl counts, and transporting fish and small game. Operation costs amounted to 7.5 cents per mile or 2.7 cents per passenger mile since the passenger load averaged 2.7 persons per flight. Considering the cost of other modes of transportation, including time involved, meals, and lodging, the aircraft was used at a

Law Enforcement - cont.

considerable savings to the department. The Champion Challenger aircraft was used almost entirely for antelope, deer, and waterfowl surveys, and fire and law enforcement patrols. The aircraft was flown 323.7 hours and 34,000 miles at a cost of 5 cents per mile.

The reconstruction of the Ainsworth radio tower, which was destroyed in an ice and wind storm, was completed during the early spring. Fifty per cent of the cost was paid by the General Electric Company. Radio coverage with the existing system is estimated at 80 per cent of the state. Coverage will improve with the installation of a repeater in Auburn, and a repeater may be installed in the Broken Bow area. Also planned is the relocation of the Lakeside, Norfolk, and O'Neill repeaters. Maintenance and operations of the system and communications procedures improved during 1964, and the system appears to work very well and relatively trouble free.

Personnel of this section made 1,943 arrests during 1964. Of this number, 1,904 of the violators were found guilty by the courts for a conviction percentage of 97.9 per cent, which reflects the high efficiency of the officer as well as the excellent co-operation given the department by most prosecutors and courts in the state. Fines totaled \$26,609, court costs amounted to \$8,835.96, and \$9,890 was collected for liquidated damages. Major offenses recorded during the year included:

| | |
|--|-----|
| Fishing without a permit..... | 403 |
| Loaded shotgun in or on vehicle..... | 339 |
| Operating boat with improper equipment..... | 194 |
| Taking game out of season..... | 130 |
| Hunting without a permit..... | 68 |
| Littering..... | 61 |
| Too many hooks or lines..... | 59 |
| Drinking on state property..... | 59 |
| Hunting on private lands without permission..... | 48 |
| Towing skier without mirror or observer..... | 42 |
| Speeding - reckless driving..... | 37 |
| Operating motorboat without registration or numbers..... | 34 |
| Shooting game from public highway..... | 32 |
| Hunting game birds with unplugged gun..... | 27 |

Violations - cont.

| | |
|--|-----|
| Over bag limit of game birds or game animals..... | 25 |
| Trapping without permission..... | 25 |
| Over bag limit of fish..... | 22 |
| Minor in possession of alcoholic beverages..... | 21 |
| No lights on boat after sunset..... | 20 |
| No game bird stamp..... | 19 |
| Nonresident hunting on resident permit..... | 15 |
| Children under 12 years of age without a life preserver..... | 15 |
| Taking fish by use of illegal devices or methods..... | 14 |
| Nonresident fishing on resident permit..... | 14 |
| Trapping out of season..... | 14 |
| Disturbing the peace..... | 13 |
| Shooting game from a vehicle..... | 11 |
| Snag fishing..... | 11 |
| Failure to stop at stop sign..... | 11 |
| Accessory to violation..... | 10 |
| Failure to check in deer at check station..... | 9 |
| Improper boat numbers or registration..... | 8 |
| Hunting, killing or possessing protected birds..... | 6 |
| Unlawfully returning fish to water..... | 6 |
| Taking short fish..... | 6 |
| Hunting on game refuge..... | 5 |
| Swimming in undesignated areas..... | 5 |
| Accessory to taking game in closed season..... | 5 |
| Miscellaneous..... | 133 |

| | |
|--------------------------------------|-----------------|
| Total arrests..... | 1,943 |
| Total convictions..... | 1,904 |
| Total fines..... | 26,609.00 |
| Total costs..... | 8,835.96 |
| Liquidated damages..... | <u>9,890.00</u> |
| Total Fines, costs, and damages..... | \$45,334.96 |

B O A T I N G

Nebraska's boating law has been in effect for five years, and efforts in the fields of education and enforcement are becoming evident. Registered motorboats on Nebraska waters increased again with a total of 20,455 registrations issued in 1964 compared to 18,540 in 1963.

According to statistics compiled by the Outboard Boating Club of America, Nebraska has done exceedingly well in the field of accident prevention. Their figures indicate Nebraska showed a decrease of 30 per cent in accidents and a decline of 60 per cent in fatalities, while registrations were climbing 15 per cent. The average for 37 states surveyed show registrations increasing 13 per cent, accidents up 9 per cent, and fatalities decreased 12 per cent.

Nebraska's success in reducing accidents and fatalities is attributed to the excellent work of conservation officers and education by the Information and Tourism Division.

A series of half-hour television shows was produced for KUON-TV, the University of Nebraska's educational channel. Co-operating with the Boating Section in these programs on boating safety were the Red Cross, Public Health Education, and the U.S. Coast Guard Auxiliary.

Lectures and courses were presented by the boating section at schools and for the Boy Scouts, Girl Scouts, and Campfire Girls. During the summer, 4-H camps were given extensive instructions in boating and water safety.

Nebraska was represented at the South Central Boat Law Administrators Conference in Santa Fe, N. Mex., and at the National Boat Law Administrators Conferences in Portland, Ore.

The NEBRASKAland Boating Guide, a summary of Nebraska laws and regulations, was sent to each boatman with his registration, and copies are available from marine dealers, sporting goods stores, county offices, and the Game Commission.

In addition to the increase in motorboating in 1964, all pleasure boating gained, including canoeing, row boating, and sailing.

I N F O R M A T I O N A N D T O U R I S M

Publications

The monthly magazine, OUTDOOR NEBRASKAland, formerly OUTDOOR NEBRASKA, was again expanded--from 44 to 60 pages with a full-color, 14-page centerspread each month. Newsstand distribution on a nation-wide basis was begun. Total receipts were \$94,463.87. Portions of the special September hunting issue were reprinted for use in the 1964 hunters' packet mailing. Other division publications included the annual fishing, hunting, and boating guides, a calendar of summer events, camping guide, road map, brochures for distribution at sports and travel shows, the 1964 "Calendar of Color", 1964 NEBRASKAland Stamps, annual report, and other informative literature pertaining to fish, game, and tourism.

News Releases

The division's weekly news release, Wildlife Notes, kept the state's hunters and fishermen informed of regulation changes, seasons, conditions, game and fish populations, the work of the Commission, and many other news events during 1964. This packet is sent every week to newspapers, wire services, radio and television stations, outdoor writers, national and state publications, conservation agencies, and department personnel. A total of 139 special releases were sent out during 1964 to keep the public informed on important and current news from the Commission. Hunter packets were mailed to 70,000 persons throughout the nation.

A total of 1,821 black and white photos and 299 color transparencies were distributed to newspapers, television, magazines, travel publications, individuals, and others. Division photographers made a total of 9,761 exposures in black and white and 10,498 in color during 1964. Film clips were made on pheasant hunting for showing in and out of state.

Programs

Personal appearances of division personnel before youth, civic, church, and sportsmen's groups were utilized as an important method of conveying information on hunting, fishing, vacationing, and other outdoor activities in the state. A variety of slides and numerous motion pictures were used. The film, "NEBRASKAland...where the WEST begins", was by far the most popular and was shown 186 times. Second ranking film requests came for "Whooping Crane". One new film, "Ted Williams Hunts Grouse", was added to the library. A total of 486 films were sent out on request. Division personnel staffed 66 meetings.

Radio and Television

Radio and television play an important part in transmitting outdoor recreation and vacation information. The weekly radio program, "Outdoor Nebraska" was carried by 33 stations, with 6 outlets added during the year. This informative, 15-minute program features all phases of hunting, fishing, camping, and other outdoor activities. Another series of weekly and twice weekly radio shows dealing with fishing and hunting activities were broadcast by 25 stations.

Exhibits

Nebraska's hunting, fishing, camping, outdoor recreation, and vacation wares were seen by nearly 2½ million people at sports and travel shows across the nation. Commission personnel staffed exhibits at shows in Kansas City, Wichita, Chicago, St. Louis, Denver, Omaha, Cleveland, Milwaukee, Sioux City, Detroit, Des Moines, Lincoln, Los Angeles, Grand Island, and Dallas. Activities of the Commission were also presented in a variety of displays at the State Fair and other state shows.

Tourism

NEBRASKALAND's tourist promotion program was a vital part of the division's operation during 1964. The all-important function of promoting the scenic, historic, and recreational potential of the state was advanced by the distribution of informative literature to persons in every state and many foreign countries.

A new tourist station was operated during the summer months on the Greenwood Interchange on Interstate 80. A total of 6,871 guests registered there, representing all 50 states and 16 foreign countries. Of that total, 945 were from Nebraska, followed closely by Illinois with 901, Iowa with 828, Michigan with 816, and California with 665 registrations. This brand new station nearly equaled in its first year the total of guests registered at the State Capitol station. A total of 6,901 visitors signed the guest book at the Capitol. However, an estimated 1,650 persons visited the Capitol station but did not sign the guest book.

Requests for Information by State

| | | |
|----------------------|------------------------|--------------------------|
| Alabama.....238 | Louisiana.....315 | Ohio.....1,388 |
| Alaska.....40 | Maine.....140 | Oklahoma.....323 |
| Arizona.....167 | Maryland.....389 | Oregon.....454 |
| Arkansas.....201 | Massachusetts.....753 | Pennsylvania.....1,575 |
| California.....2,194 | Michigan.....1,440 | Rhode Island.....132 |
| Colorado.....371 | Minnesota.....944 | South Carolina.....160 |
| Connecticut.....436 | Mississippi.....162 | South Dakota.....208 |
| Delaware.....53 | Missouri.....714 | Tennessee.....313 |
| Florida.....500 | Montana.....219 | Texas.....940 |
| Georgia.....368 | Nebraska.....4,809 | Utah.....192 |
| Hawaii.....35 | Nevada.....54 | Vermont.....88 |
| Idaho.....174 | New Hampshire.....124 | Virginia.....376 |
| Illinois.....1,885 | New Jersey.....1,116 | Washington.....623 |
| Indiana.....787 | New Mexico.....187 | Washington D. C.....92 |
| Iowa.....1,146 | New York.....2,155 | West Virginia.....137 |
| Kansas.....575 | North Carolina.....563 | Wisconsin.....874 |
| Kentucky.....249 | North Dakota.....176 | Wyoming.....91 |
| | | <u>Total</u>31,645 |

Requests for Information by Foreign Countries

| | | |
|-------------------------|--------------------|-------------------------|
| Africa.....4 | Hungary.....3 | South America.....10 |
| Argentina.....25 | India.....5 | Spain.....10 |
| Australia.....13 | Indonesia.....37 | Sweden.....12 |
| Belgium.....8 | Italy.....7 | Switzerland.....6 |
| Brazil.....43 | Iran.....2 | Venezuela.....2 |
| British W. Indies.....2 | Jamaica.....1 | Yugoslavia.....2 |
| Canada.....820 | Japan.....3 | South Wales.....1 |
| Canal Zone.....8 | Malaya.....1 | Tonga Republic.....1 |
| Czechoslovakia.....1 | Uruguay.....2 | Virgin Islands.....2 |
| Denmark.....4 | Netherlands.....6 | Mexico.....4 |
| England.....43 | New Zealand.....13 | Ghana.....6 |
| France.....17 | Phillipines.....2 | Poland.....1 |
| Germany.....26 | Puerto Rico.....5 | Bahamas.....2 |
| Guam.....2 | Scotland.....4 | Norway.....2 |
| Holland.....3 | South Africa.....6 | Central America.....1 |
| | | <u>Total</u>1,186 |

Grand Total of States and Foreign Countries.....32,831

F I S C A L A N D P E R M I T S E C T I O N

FINANCIAL STATEMENT

January 1, 1964 - Cash on Hand

| | | |
|--|-------------------|---------------|
| Game Fund | \$317,388.46 | |
| State Parks (Cash) | 117,934.87 | |
| State Parks Mill Levy | 298,083.42 | |
| Tourism Promotion | 8,859.82 | |
| Boating Fund | 11,659.52 | |
| Accelerated Public Works Fund | 5,956.88 | |
| NEBRASKA Land Stamps | 9,223.70 | |
| (Less transfer to Game Fund for repayment of loan | <u>(4,589.00)</u> | |
| | | \$ 764,517.67 |

Income During 1964

| | | |
|---|------------------|--|
| Game Fund (Permits, Stamps, Special Fees) | \$2,799,788.66 | |
| State Parks Cash (Cabin rentals, etc.) | 144,536.17 | |
| State Parks Mill Levy | 1,051,489.03 | |
| Tourism Promotion (Regular appropriation) | 62,500.00 | |
| Cash Gifts (Victoria Springs, & Scout's Rest Ranch) | 500.00 | |
| Boating Fund (Registration fees, Misc.) | 63,718.74 | |
| NEBRASKA Land Stamps (Less transfer to Game Fund, repayment of loan) | (7,827.58) | |
| Accelerated Public Works Fund | <u>14,167.36</u> | |

| | | |
|------------------------------|--|----------------|
| Total Fund Received for 1964 | | \$4,136,699.96 |
|------------------------------|--|----------------|

| | | |
|--|--|----------------------------|
| Total Funds Available for Expenditure During 1964 | | <u><u>4,901,217.63</u></u> |
|--|--|----------------------------|

| | | |
|--------------------------------------|--|----------------|
| Total of All Funds Expended for 1964 | | \$3,865,056.70 |
|--------------------------------------|--|----------------|

January 1, 1965 - Cash on Hand

| | | |
|-------------------------------|---------------|--|
| Game Fund | \$ 591,130.75 | |
| State Parks (Cash) | 232,005.10 | |
| State Parks Mill Levy | 183,288.26 | |
| Tourism Promotion | 19,437.84 | |
| Cash Gifts | 500.00 | |
| NEBRASKA Land Stamps | 372.24 | |
| Boating Fund | 9,086.63 | |
| Accelerated Public Works Fund | <u>340.11</u> | |

| | | |
|------------------------------------|--|----------------|
| Total Cash on Hand January 1, 1965 | | \$1,036,160.93 |
|------------------------------------|--|----------------|

| | | |
|---|--|----------------|
| Total 1964 Expenditures and Cash Balance on Hand January 1, 1965 | | \$4,901,217.63 |
|---|--|----------------|

SOURCE OF INCOME

Hunting activities:

| <u>Source</u> | <u>Amount</u> | <u>Total</u> |
|---------------------------------|---------------|----------------|
| Resident Licenses to Hunt | \$349,950.00 | |
| Nonresident Hunting Licenses | 516,783.00 | |
| Resident Trapping Licenses | 7,092.50 | |
| Resident Fur Buyers Licenses | 560.00 | |
| Nonresident Fur Buyers Licenses | 300.00 | |
| Deer Permits | 211,280.00 | |
| Antelope Permits | 13,940.00 | |
| Turkey Permits | 12,665.00 | |
| Game Farm Permits & Pet Permits | 771.00 | |
| Beaver Seals | 50.00 | |
| Buffalo and Venison Sales | 1,495.75 | |
| Fur Sales | 322.50 | |
| Duck Blind Rentals | <u>539.00</u> | |
| | | \$1,115,748.75 |

Fishing Activities:

| | | |
|-------------------------------------|-----------------|---------------|
| Resident Licenses to Fish | \$413,652.00 | |
| Nonresident Annual Fishing Licenses | 54,608.00 | |
| Nonresident 5-day Licenses | 24,362.00 | |
| Bait Vendors | 3,080.00 | |
| Seining Vendors | 4,445.00 | |
| Private Fish Hatchery Licenses | 355.00 | |
| Trout Permits | 46,261.50 | |
| Sale Food Fish | <u>5,070.08</u> | |
| | | \$ 551,833.58 |

Hunting and Fishing Activities:

| | |
|---|---------------|
| Resident Combination Hunting & Fishing Licenses | \$ 334,068.00 |
|---|---------------|

Federal:

| | |
|--|---------------|
| Pittman-Robertson and Dingell-Johnson Reimbursements | \$ 325,266.60 |
|--|---------------|

Miscellaneous Receipts:

OUTDOOR NEBRASKAland:

| | | |
|------------------------|------------------|--------------|
| A. Subscriptions | \$75,127.35 | |
| B. Newstands | 10,115.70 | |
| C. Advertising | <u>21,339.83</u> | \$106,582.88 |
| Duplicate Permits | 719.00 | |
| Liquidated Damages | 7,747.50 | |
| Shipping Orders | 985.26 | |
| Sale of Motor Vehicles | 6,510.65 | |
| Insurance Claims | 1,705.38 | |

Miscellaneous Receipts: - cont.

| <u>Source</u> | <u>Amount</u> | <u>Total</u> |
|---|------------------|---------------|
| Agriculture Leases & Crop Income | \$108,499.28 | |
| Incidentals | <u>49,009.59</u> | \$ 282,273.15 |
| Repayment During the year to the Game Fund for Legislative Loan to NEBRASKA-land Stamp Fund | | \$ 12,416.58 |

State Parks System - Rentals and Miscellaneous:

| | | |
|---------------------|------------------|---------------|
| Fort Robinson | \$ 52,767.21 | |
| Niobrara | 19,716.70 | |
| Ponca | 17,011.80 | |
| Arbor Lodge | 8,841.41 | |
| Chadron | 19,536.99 | |
| Stolley | 1,077.30 | |
| Victoria Springs | 1,434.40 | |
| Two Rivers | 7,356.90 | |
| Miscellaneous Areas | <u>16,793.46</u> | \$ 144,536.17 |

Special Cash Funds and Appropriations:

| | | |
|---|------------------|-----------------------|
| Upland Game Stamps | \$ 178,182.00 | |
| Special Mill Levy State Park System | 1,051,489.03 | |
| State Boating Fund: | | |
| Boat Registrations: | \$63,274.00 | |
| Miscellaneous | <u>444.74</u> | 63,718.74 |
| Tourism Promotion (Regular Appropriation) | 62,500.00 | |
| Cash Gifts | 500.00 | |
| Accelerated Public Works Fund | <u>14,167.36</u> | \$1,370,557.13 |
| TOTAL INCOME FOR 1964 | | <u>\$4,136,699.96</u> |

1964 EXPENDITURES

State:

| <u>Purpose of Expenditures</u> | <u>Amount</u> | <u>Total</u> |
|--------------------------------|------------------|--------------|
| Administration: | | |
| A. Central Office | \$156,264.08 | |
| B. District Offices | <u>50,617.00</u> | \$206,881.08 |
| Information - Tourism | | 439,841.60 |
| Commissioners Expenses | | 12,922.85 |
| Law Enforcement | | 387,086.52 |
| Radio Communications | | 22,057.54 |

Fisheries:

| | | |
|----------------------------|-------------------|--------------|
| Administration | \$ 19,741.89 | |
| Grove Lake Trout Station | 30,320.40 | |
| Salvage and Distribution | 103,868.84 | |
| Gretna Fish Hatchery | 31,646.47 | |
| Valentine Fish Hatchery | 36,603.94 | |
| North Platte Fish Hatchery | 29,998.06 | |
| Rock Creek Hatcheries | 37,860.05 | |
| Fish Management | <u>140,825.08</u> | |
| | | \$430,864.73 |

Engineering and Operations:

| | | |
|--|------------------|--------------|
| Administration | \$ 42,411.75 | |
| Special Use Areas | 162,341.64 | |
| Supply Depot | 12,651.70 | |
| Revolving Fund (Inventory Supplies, Replacements) | 5,379.98 | |
| North Platte Headquarters Building | 216.46 | |
| Two Rivers | 250.95 | |
| Lewis and Clark | 438.00 | |
| Salt Creek and Tributaries | <u>13,451.99</u> | |
| | | \$237,142.47 |

Game:

| | | |
|----------------|--------------|--------------|
| Administration | \$ 32,655.77 | |
| Game Farm | 12,823.74 | |
| State Trapper | <u>66.15</u> | |
| | | \$ 45,545.66 |

Land Management:

| <u>Purpose of Expenditures</u> | <u>Amount</u> | <u>Total</u> |
|--|------------------|--------------|
| Land and Water Conservation Holding Fund | \$ 636.07 | |
| Administration | 30,368.94 | |
| Pressey | 5,856.82 | |
| Reservoir Areas (6 Sites) | 59,962.54 | |
| Lake McConaughy | 43,478.09 | |
| Sacramento Agriculture Area | 1,053.05 | |
| Milburn Dam | 608.27 | |
| Alexandria Agriculture Area | 726.47 | |
| Jeffery Lake | 233.84 | |
| Youth Project Activities | 6,732.74 | |
| Cornhusker Ordinance | <u>12,862.21</u> | |
| | | \$162,519.04 |

Federal:

| | | |
|--|-----------------|--------------|
| <u>Pittman-Robertson</u> (Game) | | |
| Co-ordination | \$ 16,733.48 | |
| Wildlife Survey & Investigation | 130,940.88 | |
| Habitat Restoration | 145,973.31 | |
| Sacramento Wildlife Development | 34,443.08 | |
| Pheasant Life History & Ecology | 27,841.59 | |
| Plattsmouth Waterfowl Area | 52,237.22 | |
| Ecology of Prairie Grouse | 11,166.85 | |
| Keith-Garden Goose Management Area | 18,182.38 | |
| Platte Valley Lands - Wood River | 577.40 | |
| Game Production & Hunting Areas | 60,995.45 | |
| Grove Lake Wildlife Management Area | 8,791.87 | |
| Hunting and Fishing Areas - Salt Wahoo | 27.23 | |
| Big Alkali, Access | <u>7,158.75</u> | |
| | | \$515,069.49 |

| | | |
|--------------------------------------|-----------------|--------------|
| <u>Dingell - Johnson</u> (Fish) | | |
| Co-ordination | 5,577.83 | |
| Fisheries Inventory & Investigations | 45,979.92 | |
| Platte Valley Development | 5,835.53 | |
| Platte Valley Lands - Wood River | 577.40 | |
| Grove Lake Wildlife Management Area | 976.88 | |
| Hunting & Fishing Areas - Salt Wahoo | 9.08 | |
| Big Alkali - Access | <u>7,158.75</u> | |
| | | \$ 66,115.39 |

| | |
|-------------------|--------------|
| Tourist Promotion | \$ 51,921.98 |
|-------------------|--------------|

| | |
|----------------------|-------------|
| NEBRASKA Land Stamps | \$ 4,262.46 |
|----------------------|-------------|

| | |
|----------------------------------|--------------|
| Accelerated Public Works Program | \$ 19,784.13 |
|----------------------------------|--------------|

| <u>Source</u> | <u>Special Mill Levy Fund</u> | <u>Cash Fund</u> | <u>Total Combined Park System</u> |
|-------------------------|-----------------------------------|----------------------|---------------------------------------|
| State Park System: | | | |
| Administration & Design | \$ 91,184.82 | | \$ 91,184.82 |
| Indian Caves | 17,513.13 | | 17,513.13 |
| Fort Robinson | 92,834.27 | \$ 5,115.51 | 97,949.78 |
| Niobrara | 32,134.17 | 4,333.74 | 36,467.91 |
| Ponca | 43,474.19 | 6,227.42 | 49,701.61 |
| Ash Hollow | 37,316.09 | | 37,316.09 |
| Fort Kearny | 51,843.68 | | 51,843.68 |
| Arbor Lodge | 19,963.16 | 4,538.94 | 24,502.10 |
| Chadron | 98,091.45 | 5,121.72 | 103,213.17 |
| Stolley | 14,843.07 | 25.00 | 14,868.07 |
| Victoria Springs | 12,756.25 | 2,117.67 | 14,873.92 |
| Two Rivers | 48,192.26 | 2,977.14 | 51,169.40 |
| Lewis & Clark | 28,820.15 | | 28,820.15 |
| Minatare & Box Butte | 7,646.28 | | 7,646.28 |
| Recreational Areas | 139,567.26 | | 139,567.26 |
| Lake McConaughy | 3,376.29 | 8.80 | 3,385.09 |
| State Wayside Areas | 39,666.04 | | 39,666.04 |
| Fremont | 36,597.30 | | 36,597.30 |
| Fort Hartstuff | 2,262.53 | | 2,262.53 |
| Scouts Rest Ranch | 55,857.03 | | 55,857.03 |
| Salt-Wahoo Development | 287,144.26 | | 287,144.26 |
| Fort Atkinson | <u>5,200.51</u> | | <u>5,200.51</u> |
| TOTAL | \$1,166,284.19 | \$ 30,465.94 | \$1,196,750.13 |

| | <u>Amount</u> | <u>Total</u> |
|------------------------------|-----------------|--------------|
| Boating: | | |
| Administration & Enforcement | \$ 46,822.75 | |
| Riverview Park | 2,390.91 | |
| Omadi Bend | 40.22 | |
| Brownville | 871.69 | |
| Lake Minatare | 611.17 | |
| Fremont | 130.40 | |
| Salt-Wahoo Sites 4, 8, 9 | 10,011.85 | |
| Lake McConaughy | 3,942.43 | |
| Smith Lake | <u>1,470.21</u> | |
| | | \$ 66,291.63 |

| | |
|--|----------------|
| Total Expenditures for All Funds During 1964 | \$3,865,056.70 |
|--|----------------|

NEBRASKA GAME, FORESTATION AND PARKS COMMISSION

1964 PERMITS ISSUED BY COUNTIES

| <u>COUNTY</u> | <u>RES. FISH</u> | <u>RES. HUNT</u> | <u>FISH & HUNT</u> | <u>N.R. HUNT</u> | <u>N.R. FISH</u> | <u>N.R.F. 5-DAY</u> | <u>TRAP</u> | <u>TOTAL PERMITS</u> | <u>UPLAND STAMPS</u> |
|---------------|----------------------|----------------------|----------------------------|----------------------|----------------------|-------------------------|-------------|--------------------------|--------------------------|
| Adams | 3,358 | 2,459 | 1,117 | 377 | 30 | 84 | 28 | 7,453 | 3,837 |
| Antelope | 1,286 | 568 | 595 | 90 | 26 | 85 | 26 | 2,676 | 1,138 |
| Arthur | 72 | 26 | 36 | 5 | 1 | 8 | 9 | 157 | 49 |
| Banner | 39 | 28 | 39 | | 6 | | 1 | 113 | 64 |
| Blaine | 163 | 73 | 131 | 14 | 5 | 10 | 19 | 415 | 178 |
| Boone | 727 | 731 | 405 | 136 | 7 | 25 | 27 | 2,058 | 1,226 |
| Box Butte | 1,314 | 900 | 692 | 281 | 21 | 93 | 16 | 3,317 | 1,799 |
| Boyd | 388 | 346 | 215 | 64 | 7 | 17 | 25 | 1,062 | 567 |
| Brown | 634 | 514 | 326 | 43 | 27 | 57 | 63 | 1,664 | 849 |
| Buffalo | 3,102 | 2,195 | 1,412 | 322 | 42 | 142 | 39 | 7,264 | 3,680 |
| Burt | 1,053 | 651 | 397 | 115 | 11 | 38 | 59 | 2,324 | 996 |
| Butler | 747 | 591 | 420 | 32 | 8 | 14 | 43 | 1,855 | 913 |
| Cass | 2,086 | 1,406 | 724 | 46 | 45 | 69 | 73 | 4,449 | 1,793 |
| Cedar | 791 | 954 | 385 | 904 | 15 | 25 | 37 | 3,111 | 2,227 |
| Chase | 768 | 519 | 444 | 288 | 269 | 165 | 14 | 2,467 | 1,161 |
| Cherry | 1,083 | 495 | 527 | 43 | 81 | 133 | 32 | 2,394 | 906 |
| Cheyenne | 1,256 | 1,275 | 600 | 284 | 119 | 104 | 3 | 3,641 | 2,112 |
| Clay | 613 | 546 | 402 | 145 | 10 | 15 | 12 | 1,743 | 1,030 |
| Colfax | 973 | 709 | 473 | 59 | 11 | 20 | 32 | 2,277 | 1,104 |
| Cuming | 1,124 | 608 | 567 | 114 | 10 | 18 | 72 | 2,513 | 1,191 |
| Custer | 1,677 | 1,434 | 978 | 726 | 24 | 94 | 18 | 4,951 | 3,068 |
| Dakota | 1,493 | 1,387 | 413 | 695 | 342 | 105 | 43 | 4,478 | 2,324 |
| Dawes | 1,162 | 791 | 470 | 114 | 44 | 157 | 16 | 2,754 | 1,252 |
| Dawson | 3,170 | 2,270 | 1,333 | 369 | 95 | 240 | 68 | 7,545 | 3,700 |
| Deuel | 358 | 252 | 177 | 124 | 429 | 463 | 3 | 1,806 | 516 |
| Dixon | 647 | 511 | 328 | 128 | 19 | 39 | 29 | 1,701 | 900 |
| Dodge | 3,809 | 2,587 | 1,404 | 184 | 50 | 152 | 177 | 8,363 | 3,841 |
| Douglas | 24,287 | 20,997 | 7,418 | 700 | 360 | 516 | 127 | 54,405 | 26,712 |
| Dundy | 381 | 236 | 242 | 373 | 425 | 108 | 6 | 1,771 | 817 |
| Fillmore | 775 | 731 | 489 | 293 | 10 | 25 | 12 | 2,335 | 1,438 |
| Franklin | 409 | 356 | 228 | 210 | 23 | 25 | 4 | 1,255 | 778 |
| Frontier | 456 | 274 | 224 | 49 | 9 | 25 | 11 | 1,048 | 511 |
| Furnas | 1,252 | 793 | 568 | 680 | 188 | 170 | 12 | 3,663 | 1,949 |
| Gage | 2,644 | 1,829 | 941 | 902 | 68 | 93 | 100 | 6,577 | 3,489 |
| Garden | 755 | 314 | 256 | 64 | 218 | 532 | 6 | 2,145 | 548 |
| Garfield | 382 | 220 | 199 | 37 | 9 | 26 | 19 | 892 | 411 |
| Gosper | 602 | 140 | 85 | 21 | 42 | 150 | | 1,040 | 233 |
| Grant | 155 | 45 | 66 | 7 | 6 | 20 | 40 | 339 | 98 |
| Greeley | 326 | 396 | 220 | 87 | 5 | 18 | 2 | 1,054 | 674 |
| Hall | 4,358 | 3,052 | 1,745 | 345 | 30 | 125 | 19 | 9,674 | 4,877 |
| Hamilton | 701 | 482 | 349 | 103 | 4 | 12 | 11 | 1,662 | 866 |
| Harlan | 2,517 | 313 | 463 | 320 | 958 | 794 | 9 | 5,374 | 846 |
| Hayes | 110 | 97 | 78 | 28 | 2 | 3 | 2 | 320 | 205 |
| Hitchcock | 823 | 400 | 307 | 268 | 871 | 426 | 7 | 3,102 | 916 |
| Holt | 1,613 | 895 | 951 | 101 | 27 | 120 | 116 | 3,823 | 1,682 |
| Hooker | 182 | 89 | 113 | 14 | 5 | 15 | 10 | 428 | 193 |
| Howard | 690 | 426 | 396 | 179 | 7 | 33 | 31 | 1,762 | 929 |
| Jefferson | 1,194 | 886 | 527 | 442 | 66 | 78 | 32 | 3,225 | 1,761 |
| Johnson | 628 | 537 | 355 | 107 | 12 | 24 | 41 | 1,704 | 877 |

NEBRASKA GAME, FORESTATION AND PARKS COMMISSION

1964 PERMITS ISSUED BY COUNTIES

| <u>COUNTY</u> | <u>RES. FISH</u> | <u>RES. HUNT</u> | <u>FISH & HUNT</u> | <u>N.R. HUNT</u> | <u>N.R. FISH</u> | <u>N.R.F. 5-DAY</u> | <u>TRAP</u> | <u>TOTAL PERMITS</u> | <u>UPLAND STAMPS</u> |
|---------------|----------------------|----------------------|----------------------------|----------------------|----------------------|-------------------------|-------------|--------------------------|--------------------------|
| Kearney | 431 | 466 | 204 | 140 | 6 | 27 | 2 | 1,276 | 791 |
| Keith | 1,986 | 721 | 865 | 238 | 626 | 2,141 | 5 | 6,582 | 1,547 |
| Keya Paha | 36 | 68 | 13 | 10 | 20 | 11 | 4 | 162 | 101 |
| Kimball | 614 | 891 | 323 | 190 | 200 | 87 | 5 | 2,310 | 1,329 |
| Knox | 3,140 | 932 | 823 | 502 | 230 | 587 | 58 | 6,272 | 1,971 |
| Lancaster | 14,239 | 11,970 | 4,483 | 5,951 | 116 | 291 | 135 | 34,185 | 21,525 |
| Lincoln | 4,635 | 2,656 | 1,553 | 402 | 151 | 622 | 67 | 10,086 | 4,416 |
| Logan | 90 | 78 | 60 | 5 | 3 | 8 | 5 | 249 | 134 |
| Loup | 109 | 48 | 80 | 17 | 6 | 8 | 5 | 273 | 121 |
| McPherson | 43 | 18 | 32 | | 1 | 1 | 2 | 97 | 32 |
| Madison | 2,894 | 2,511 | 1,213 | 706 | 36 | 111 | 68 | 7,539 | 4,275 |
| Merrick | 798 | 602 | 443 | 100 | 12 | 32 | 19 | 2,006 | 1,062 |
| Morrill | 816 | 458 | 377 | 110 | 51 | 108 | 20 | 1,940 | 804 |
| Nance | 545 | 437 | 285 | 46 | 11 | 25 | 25 | 1,374 | 706 |
| Nemaha | 824 | 708 | 412 | 162 | 34 | 30 | 34 | 2,204 | 1,113 |
| Nuckolls | 474 | 602 | 291 | 300 | 13 | 9 | 16 | 1,705 | 1,152 |
| Otoe | 1,349 | 1,215 | 772 | 119 | 26 | 33 | 72 | 3,586 | 1,818 |
| Pawnee | 531 | 270 | 287 | 145 | 53 | 35 | 15 | 1,336 | 588 |
| Perkins | 306 | 342 | 237 | 185 | 29 | 50 | | 1,149 | 784 |
| Phelps | 1,038 | 761 | 482 | 316 | 16 | 56 | 4 | 2,673 | 1,513 |
| Pierce | 971 | 616 | 415 | 120 | 13 | 50 | 15 | 2,200 | 1,116 |
| Platte | 2,195 | 1,891 | 1,180 | 257 | 43 | 66 | 77 | 5,709 | 3,132 |
| Polk | 643 | 390 | 396 | 69 | 8 | 9 | 6 | 1,521 | 772 |
| Red Willow | 2,610 | 1,413 | 824 | 1,154 | 920 | 617 | 20 | 7,558 | 3,331 |
| Richardson | 1,512 | 825 | 699 | 447 | 429 | 124 | 32 | 4,068 | 1,465 |
| Rock | 243 | 170 | 200 | 25 | 6 | 19 | 60 | 723 | 358 |
| Saline | 1,292 | 1,013 | 769 | 146 | 5 | 30 | 49 | 3,304 | 1,756 |
| Sarpy | 1,947 | 1,989 | 554 | 55 | 16 | 38 | 24 | 4,623 | 2,353 |
| Saunders | 1,426 | 1,087 | 631 | 73 | 11 | 17 | 123 | 3,368 | 1,615 |
| Scotts Bluff | 4,346 | 2,300 | 1,306 | 298 | 443 | 402 | 20 | 9,115 | 3,614 |
| Seward | 1,099 | 1,028 | 637 | 164 | 9 | 26 | 47 | 3,010 | 1,765 |
| Sheridan | 888 | 685 | 502 | 111 | 34 | 80 | 27 | 2,327 | 1,266 |
| Sherman | 712 | 306 | 284 | 162 | 9 | 56 | 16 | 1,545 | 698 |
| Sioux | 61 | 31 | 53 | 2 | 28 | 4 | 3 | 182 | 83 |
| Stanton | 419 | 245 | 237 | 7 | 4 | 8 | 13 | 933 | 440 |
| Thayer | 844 | 581 | 428 | 1,238 | 24 | 31 | 28 | 3,174 | 2,141 |
| Thomas | 103 | 79 | 84 | 12 | 6 | 15 | 18 | 317 | 166 |
| Thurston | 567 | 315 | 197 | 40 | 6 | 19 | 32 | 1,176 | 538 |
| Valley | 770 | 524 | 501 | 145 | 12 | 45 | 19 | 2,016 | 1,119 |
| Washington | 981 | 855 | 408 | 143 | 13 | 22 | 51 | 2,473 | 1,285 |
| Wayne | 623 | 698 | 305 | 244 | 2 | 14 | 32 | 1,918 | 1,245 |
| Webster | 574 | 393 | 229 | 587 | 35 | 30 | 9 | 1,857 | 1,169 |
| Wheeler | 166 | 52 | 84 | 6 | 8 | 27 | 14 | 357 | 115 |
| York | 1,247 | 921 | 630 | 426 | 12 | 30 | 20 | 3,286 | 1,916 |
| Colorado | | | | 78 | 470 | 46 | | 594 | 79 |
| Iowa | | | | 242 | 109 | 9 | | 360 | 228 |
| Kansas | | | | 102 | 1,057 | 52 | | 1,211 | 106 |
| South Dakota | 1,089 | 131 | 126 | 109 | 578 | 616 | | 2,649 | 283 |
| GRAND TOTAL | 141,359 | 102,626 | 56,144 | 27,148 | 11,049 | 12,484 | 2,917 | 353,727 | 173,167 |

